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ORIGINAL COMMUNICATIONS.

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THE PNEUMATIC SINUSES IN THE SPHENOIDAL WINGS.

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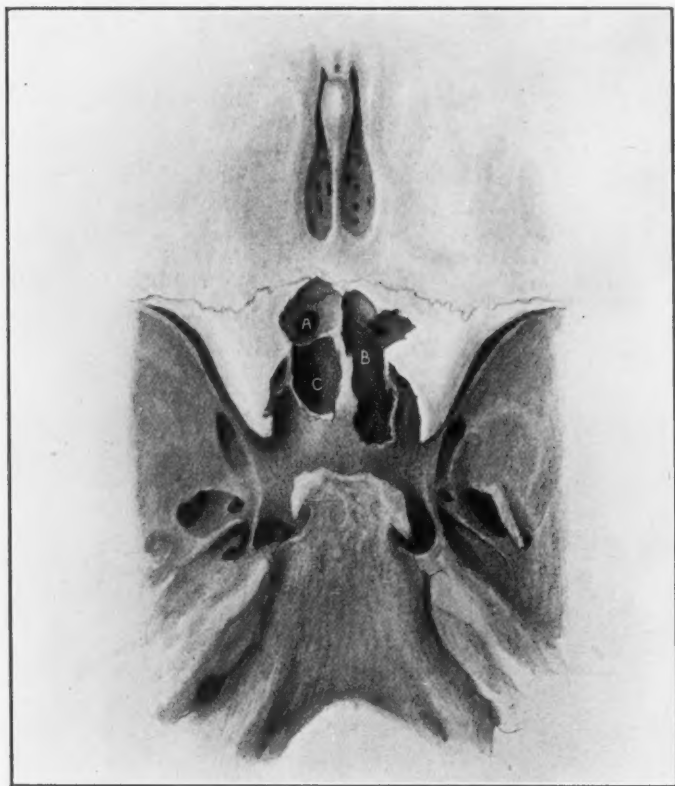
Accessory air cells in the sphenoid bone have been described by Zuckerkandl and Hajek. The authors noticed the two sphenoidal cavities, located in the body of the sphenoid bone, and also described in a very general manner the occasional presence of other pneumatic cavities, with nasal communications, developed in the smaller wings of the sphenoid.

A special study of these sphenoidal cells has never been published; the frequency, topography, relations and size have never been exactly enough described.

These facts were called to my attention by my highly respected teacher, Prof. Dr. E. Zuckerkandl, and at his suggestion I have conducted this study of the sinuses of the sphenoidal wings with the view of classifying and describing these sinuses, to show their relation to the ethmoidal cells and to other important structures, and to determine their importance in the work of the rhinologist.

The existence of these sinuses is a matter of importance not only from an anatomical, but from a surgical standpoint. They are of great interest to the rhinologist, who is daily confronted with the problems of accessory sinus disease, and who finds no class of cases more difficult to treat satisfactorily than the very obscure lesions of the posterior ethmoid cells and the sphenoidal sinus.

The sphenoidal bone is regarded by anatomists as a modified vertebral body, presenting all the general characteristics possessed by a vertebra. The particular form is modified, however, so as to



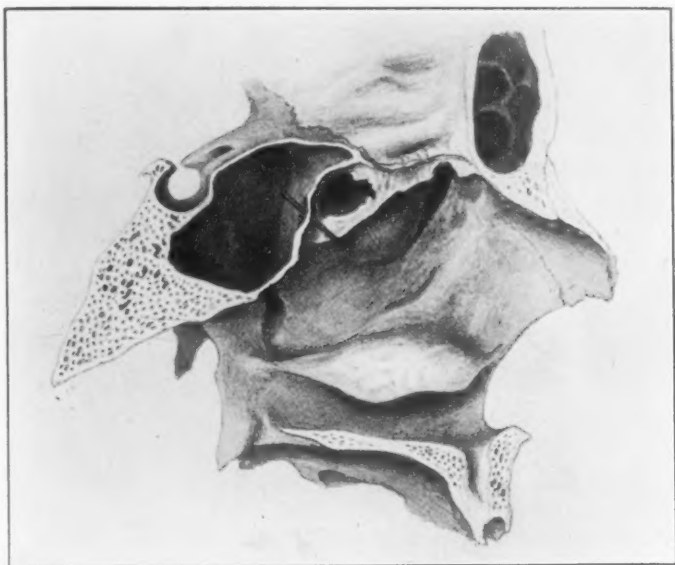
CASE I. Seen from Cranial Cavity.

- (A) Accessory Sphenoid Cavity in Wing. (B) Sphenoidal Sinus Major—Left.
(C) Sphenoidal Sinus Major—Right.

make it a cranial bone. The point of interest to the rhinologist is that in early child-life the nasal mucous membrane pushes a projection or bud into the sphenoid which, enlarging and accompanied

by resorption of bone, forms two sphenoidal sinus, which at this stage have a large opening into the nose. This nasal opening is narrowed and the anterior wall of the sphenoidal cavity is formed by the development of the Bertini ossicles. The sphenoidal cavity thus formed is of variable size and a marked variation may be seen even in opposite sinuses in the same sphenoid bone.

Sphenoidal sinuses also vary greatly as regards their development forwards and upwards into the small wing of the sphenoid bone.

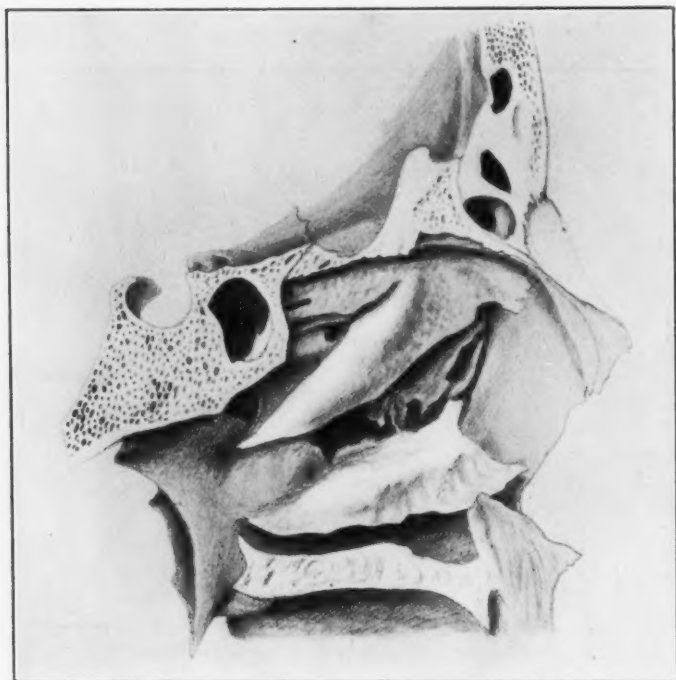


CASE III. Great Sphenoid Cavity Extending into Wing.

It is evidently nature's idea that the sphenoid shall be a *hollow bone* with pneumatic cells extending into the smaller wings as far forward as the fronto-sphenoid suture.

A small sphenoid sinus, speaking always of the adult skull, was one which measured 8 m.m. long, 5 m.m. wide and 10 m.m. deep; another small sinus measured 15 m.m. long, 10 m.m. wide and 10 m.m. deep. A large sphenoidal cavity was found to be 39 m.m. long, 19 m.m. wide and 25 m.m. deep. The small sphenoid sinus

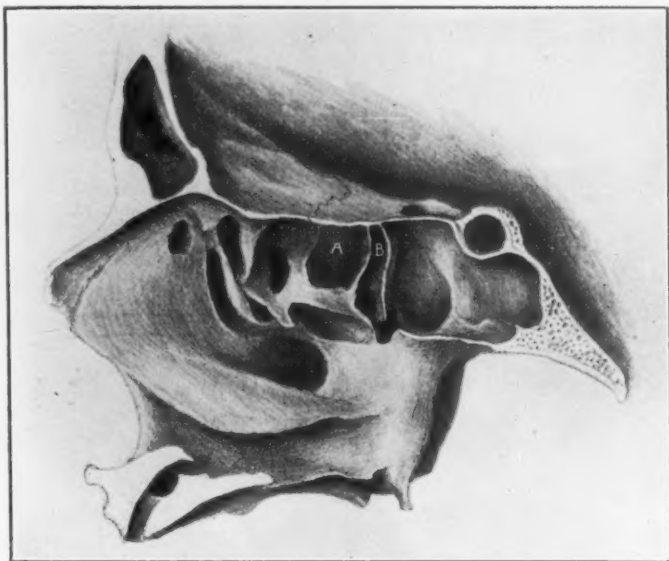
is generally confined to the body of the bone proper, while in the larger ones this cavity is increased by the sinus occupying the body of the sphenoid, and extending upward and forward into the small wings of the sphenoid. The space in these larger cavities is further increased by a noticeable bulging forward of the anterior wall of the cavity, the earlier cartilages of Bertini.



CASE IV. Sphenoidal Cavity Small, but Extends into Wing.

If it be true that the normal sphenoid should be as pneumatic as possible then we must consider as normal those skulls where the sphenoid cavity occupies the body of the sphenoid and extends forward to the fronto-sphenoidal suture, including the pneumatic space in the small wings of the sphenoid. In those cases where the sphenoidal cavity is small and does not hollow out the bone com-

pletely, the sphenoid may contain more pneumatic room, either by the opposite sphenoidal cavity developing unusually large, or other pneumatic cells may develop in the small sphenoidal wings, thus forming a true sinus of the smaller wing, or sometimes the posterior ethmoid cell may project well backwards into the sphenoidal area and occupy some space under the small sphenoidal wing. The first construction is much less common than the other two.



CASE V. Two Cells in Small Sphenoid Wing.

(A) and (B) Cells in Small Wing.

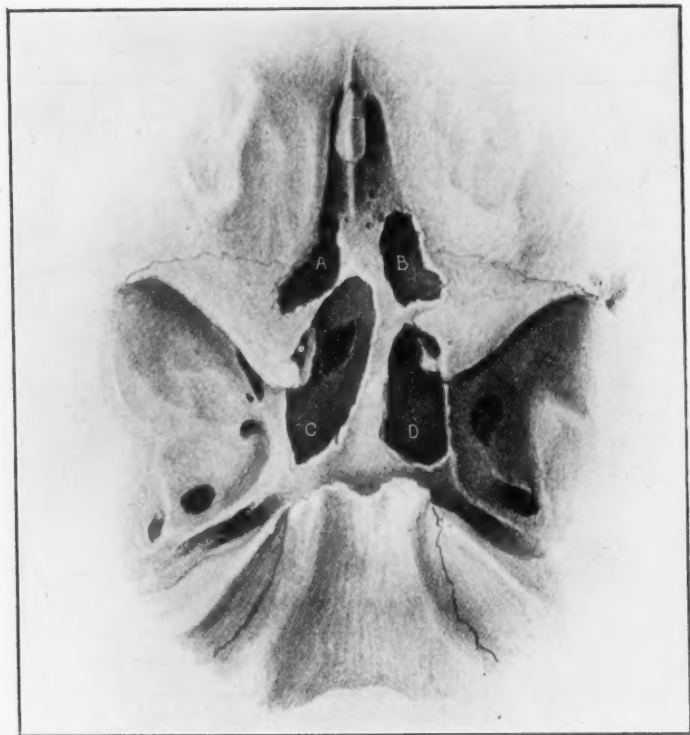
I have investigated the relations of the pneumatic cavities of the sphenoid in 200 cases and have found as follows:

I.—The great sphenoidal cavity may occupy only the body of the sphenoid without extending into the small wing. This was found in thirty-one cases.

II.—The greater sphenoidal cavity may occupy the body of the sphenoid, and other pneumatic cells, with a nasal communication, and lined with mucous membrane, may develop in the small sphenoidal wings.

This was found in seven cases, and represents the frequency of the occurrence of a true sinus of the smaller sphenoidal wings.

III.—The great sphenoidal sinus may develop in such a way that it occupies one-half the sphenoid body and extending into the sphenoidal wing may occupy it *entirely or partially*.



CASE VI. Posterior Ethmoid Cells Extending into Small Wings—Cranial View.

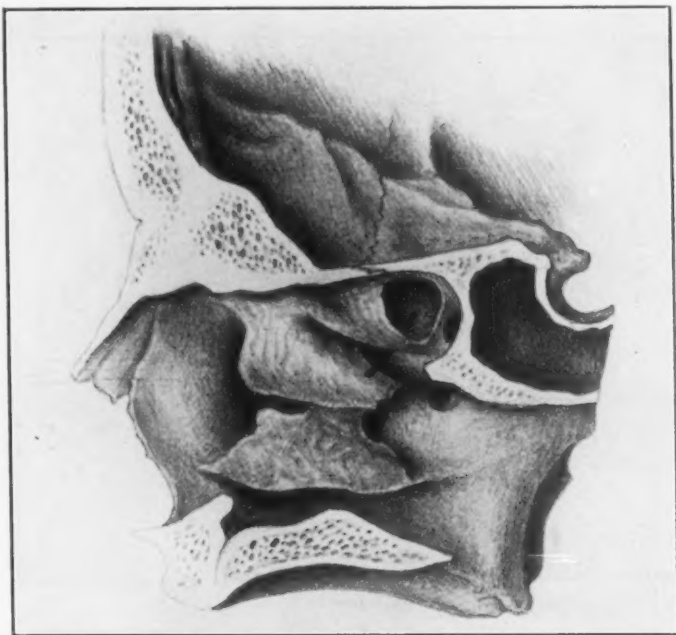
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| (A) Cell Extending in Small Wing. | (C) Sphenoid Sinus Major. |
| (B) Cell Extending in Small Wing. | (D) Sphenoid Sinus Major. |

This condition was found 169 times.

IV.—The great sphenoidal cavity may occupy the body and extend *partly* into the wing, in which case the whole or a part of the

posterior ethmoidal cell may extend backward into the small wing of the sphenoid. The sinus of the small wing of the sphenoid in these cases is not developed. This condition was found forty times.

V.—The greater sphenoidal sinus develops in the body of the sphenoid. The sinus in the small wings is also present. These sinuses of the smaller wings communicated on one side with the



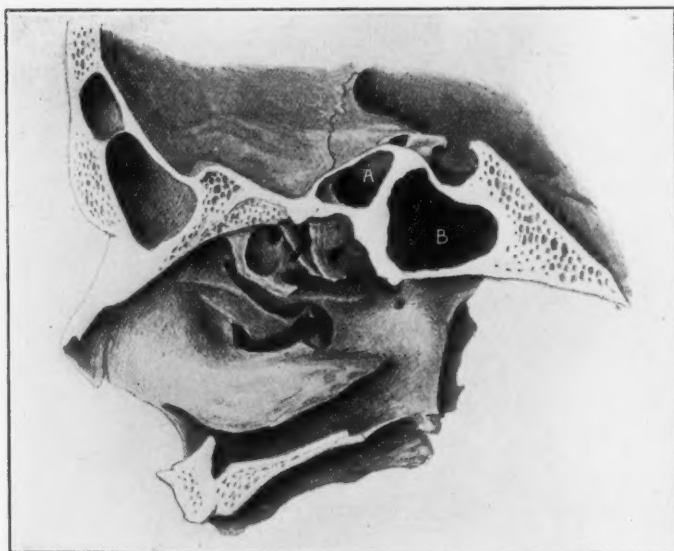
CASE VII. Small Sphenoid Wing, Forming Entire Roof for Posterior Ethmoid Cell.

posterior ethmoid cell and on the other side with the recessus sphenoidalis.

It seems then that in 15.5 per cent of all cavities examined the great sphenoidal sinus did not extend to the wings of the sphenoid, but was confined entirely to the body. In all of these cases the sphenoidal wings contained pneumatic cells, made so either by the development of a true sinus of the sphenoidal wing or else by the projection backwards of a posterior ethmoidal cell into the small wing.

In 3.5 per cent of the investigated cases could be distinguished a sinus of the small wing of the sphenoid which, in all cases but one, communicated with the posterior ethmoid cell.

In 84.5 per cent of the cases examined the great sphenoid sinus extended into the small wings of the sphenoid. In 4.5 per cent of the above cases the posterior ethmoid cell extended slightly backward into the region of the sphenoidal wings.



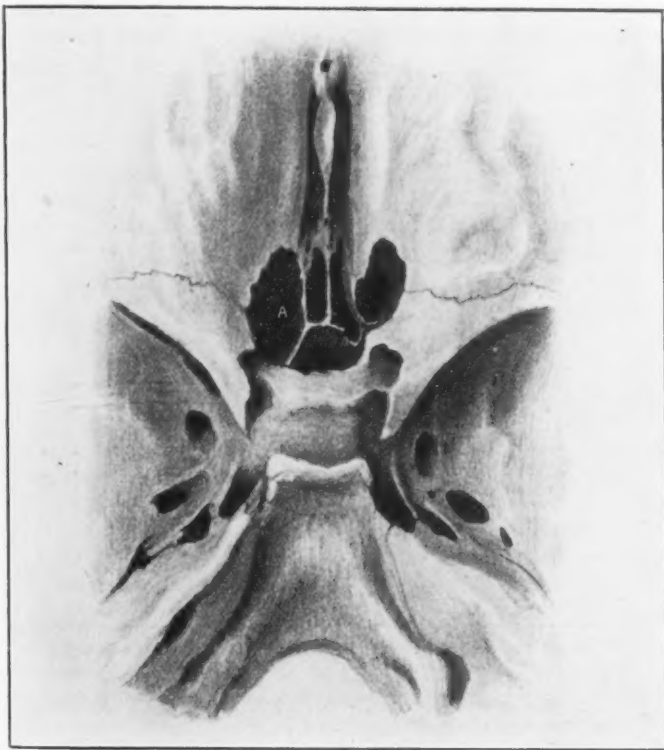
CASE VIII. Large Accessory Sphenoid Sinus in Small Wing.

(A) Accessory Sinus of Sphenoid Wing. (B) Main Sphenoid Sinus.

So far I have limited myself to a general description of the relations. In the following I desire to describe more in detail some examples of these sinuses of the sphenoidal wings which are worthy of attention:

Case I.—A Typical Sinus of the Sphenoidal Wing.—In this case the septum between both principal sphenoidal sinuses extends forward nearly in the median line. On the right side the sinus is large, occupies the body of the sphenoid and extends forward into the

small sphenoidal wings. This cavity is 30 m.m. long, 13 m.m. wide, 29 m.m. deep. On the left side are two sinuses, one the principal sphenoidal sinus, 15 m.m. long, 28 m.m. wide and 22 m.m. high, extending only a very little into the small sphenoidal wing. Above this cavity, and fully developed within the sphenoidal area, was a

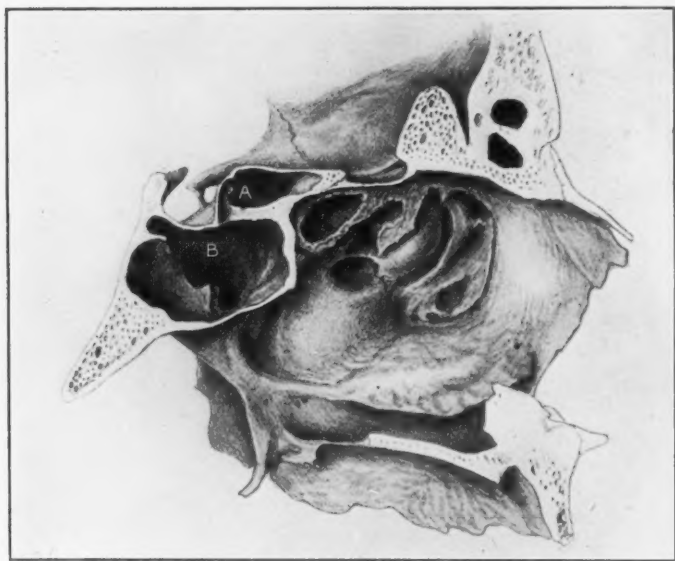


CASE IX. Left Posterior Ethmoid Cell (A) in Sphenoid Wing, seen from Cranial Cavity.

second pneumatic sinus, 12 m.m. long, 6 m.m. wide and 13 m.m. high. This sinus had its individual communication with the recessus spheno-ethmoidalis. This is the only case where the cell in the small sphenoidal wing did not communicate with the posterior ethmoid cell. The nasal opening of the right sphenoidal sinus was

29 m.m. from its roof, while the left sphenoidal sinus major had a nasal opening 22 m.m. and the left accessory sphenoidal sinus 21 m.m. from their respective cranial walls.

Case II is an example of a sinus of the small wings with its nasal communication directly into the posterior ethmoidal cell. This accessory cavity measured 15 m.m. long, 14 m.m. wide and 7 m.m. high, and was slightly smaller than the posterior ethmoid cell into



CASE X. Sinus of Small Wing Lying Higher than Posterior Ethmoid Cell.

(A) Accessory Sphenoid Sinus. (B) Main Sphenoid Sinus.

which it drained. The opening of the great sphenoid cavity is normal. The sinus of the smaller wing is developed entirely within the small sphenoidal wing and does not extend into the ethmoid bone. The dividing wall between this sinus and the posterior ethmoid cell is exactly under the speno-ethmoid suture. The sinus is completely separated from the great sphenoidal sinus and equally separated from the posterior ethmoidal cell.

Case III.—The great sphenoidal cavity occupies the body of the sphenoid and the entire small wing and extends backward to the foramen rotundum. On its roof lies the canal for the optic nerve for the distance of about 1 c.m., together with the forward part of the sulcus carotidis. The wall of the sinus presses forward to the antrum of Highmore and presses the posterior wall of this antrum forward so as to form a protuberance in the maxillary antrum. The nasal part of the forward wall of the sphenoidal sinus is small; the ethmoidal part of this wall is wide and lies against the posterior ethmoidal cell.

Case IV.—The great sphenoid sinus is small and extends forward only to the border of the "sella turcica." It extends outward to the small sphenoidal wing as far as the canalis opticus. The remaining part of the small sphenoidal wings is compact.

Case V.—The great sphenoidal sinus is roomy and reaches posterior to the anterior border of the petrous portion of the temporal bone. The great sinus extends forward as far as the canalis opticus. With the exception of this cell formation the small wing is compact. The posterior ethmoid cell is small, but is placed so far posterior that the anterior half of the canalis opticus lies in relation with this ethmoidal cell.

Case VI.—The great sphenoidal cavity is large and extends outward and posteriorly as far as the foramen rotundum and the canalis opticus. A large posterior ethmoid cell extends into the small sphenoidal wing as far as the middle of the canalis opticus. The remaining part of the small sphenoidal wing is compact.

Case VII.—The great sphenoid sinus is small. The posterior ethmoid cell extends backward into the small sphenoid wing as far as the canalis opticus, in such a manner that the small sphenoidal wing forms the entire roof for the posterior ethmoidal cell.

Case VIII.—The roomy great sphenoid sinus extends to the foramen rotundum and to the sulcus carotidis. In the small sphenoidal wing a large accessory sinus is developed, which reaches from the median line, laterally, to the canalis opticus, and downward to the foramen speno-palatinum.

This accessory sphenoid sinus, together with the posterior ethmoidal cell occupy relatively a large space. It opens into the nose at the recessus ethmoidalis superior.

Case IX.—Both great sphenoidal sinuses are asymmetrical. The sphenoidal septum does not lie in the median line, but extends forward so much toward the left side that it meets the lateral wall of the left sinus.

The posterior ethmoid cell of the right side reaches as far back as the pars ethmoidalis of the sphenoid, while the posterior ethmoid cell on the left side extends into the small wing of the sphenoid as far as the canalis opticus. Here it extends between the sphenoidal sinus and the cranial cavity as far as the forward edge of the sella turcica. If we were to make a transverse section of this skull just one centimeter in front of the sella turcica we would see on the right side a large sphenoidal sinus, but on the left side instead of one sinus one would find two—a large superior sinus, which is the posterior ethmoidal cell developed in the sphenoid wing, and under this a smaller, the true sphenoidal sinus.

Case X shows the same relation as *Case VIII*, except that the communication of the sinus of the small wing with the posterior ethmoid cell is narrowed by the formation of a thin bony partition. It is worthy of notice that the roof of the sinus of the small wing lies higher than the roof of the posterior ethmoidal cell. One may conclude then that when the sinus of the small wing is extensive, its roof, which forms a part of the anterior cranial cavity, lies higher than the roof of the posterior ethmoidal cell, so that the observer can determine, in an open skull, whether the sinus of the small wing is present or absent.

The relations of these sinuses of the small sphenoidal wings is important. Above lies the brain cavity, the optic nerve and the optic chiasm, separated from the sinus by only a paper thickness (.5 m.m.) of bone. Below lies the nasal mucous membrane, and generally the anterior part of the great sphenoidal sinus with only a thin wall of bone separating the accessory from the great sphenoidal sinus. Anteriorly they lie in immediate relation with the posterior ethmoidal cell, whose posterior wall forms the anterior wall of these sinuses of the small sphenoidal wings. The most important relations are on the outer wall which is convex from above downward and over which runs the optic nerve. When this sinus is at all large it may have a very important relation with the carotid artery on its outer wall, and occasionally in the more anterior and inferior part of the outer wall a relation with the vidian nerve. The sinus wall may also form a part of the orbit wall.

The walls of the sinus are generally only .5 m.m. thick and are lined with mucous membrane and covered above with dura mater and in part below with nasal mucous membrane.

The practical bearing of these sinuses of the sphenoidal wings to the work of the rhinologist is that it is possible to have this cell diseased in either empyema of the ethmoid or sphenoidal regions

and the disease will persist in this sinus even when the ethmoid cells in front are cured. If during operation the measurements are used which have been given for finding the ethmoid cells this sinus will escape the cutting forceps and curette and the diseased mucous membrane will not be removed. Likewise in operations upon the great sphenoidal sinus this accessory sinus will not be treated either in case the larger sinus is washed out with the cannula or treated surgically with the curette. An encysted empyema of this sinus of the sphenoidal wing may cause optic nerve paralysis, press upon the carotid artery, paralyze the vidian nerve or sometimes cause orbital pressure. On the other hand, unless we remember the possibility of the occurrence of this sinus the rhinologist who is operating upon the posterior ethmoid cell may reason erroneously in case his instrument enters this sinus from the posterior ethmoid cell. If his instrument suddenly perforates a thin wall when he has been working in the posterior ethmoid cell, he must believe that he is either in the brain cavity or else in the great sphenoidal cavity. Both of these suppositions are evidently incorrect. Another practical point in clinical application is the danger in operating upon these cases of wounding the carotid artery, the optic nerve, the brain or the orbital structures. The danger of wounding the trigeminus or vidian nerves is slightest. These sinuses in common with the ethmoid cells may act as a causative agent in spreading infection to the optic nerve, brain or orbit.

Finally, the clinician may also remember that the relation of the posterior ethmoidal cells, either with the sinus of the smaller wing or with the great sphenoidal sinus, makes it possible for him to open these sinuses from the posterior ethmoidal cell. In pathological cases, where curettage and drainage of these cells and the sphenoidal sinus is necessary, the whole operation may be completed by continuing the removal of tissue backward through the posterior ethmoidal cell into the sinus of the small wing and thence into the great sphenoidal sinus, or else directly from the posterior ethmoidal cell into the sphenoidal major.

In some cases this may be an easier operation and not more serious than the usual place of opening the great sphenoidal sinus in the vicinity of its normal opening near the septum.

THE USE OF THE TUNING FORK AS A TEST FOR DISEASE OF THE MAXILLARY ANTRUM.

BY D. A. KUYK, M.D., RICHMOND, VA.

Except by surgical means we have no method of examination of the maxillary antrum that is quite positive or satisfactory, and even the surgical method of exploratory puncture through the nasal wall, owing to the bony formation of the wall or the location of the antrum, both of which vary so often, even in the same individual, will at times fail.

Take for instance a case in which the nostrils are so occluded by hyperplastic turbinates, with a badly deflected septum, with a malposition of the ostium maxillare preventing, even after the nostrils are rendered patent, direct entrance into the antrum, and yet there are many subjective and objective symptoms of antral disease, perhaps empyema, perhaps a growth of some kind.

There is a purulent collection in the nostrils, but this might as well come from the frontal sphenoidal sinus or the ethmoid cells.

Pain is produced by percussion over the antrum, but the patient is hysterical from attacks of pain, also through fear that something terrible will be done.

Transillumination gives a shadow on either side.

The patient fears exploratory puncture, in fact declines it.

Here are present the cardinal symptoms of antral disease with a history guiding us direct to that cavity; but how often are histories misleading? The responses to our tests are by no means infallible.

The dark spectre of doubt haunts the surgeon and causes him anxiety, almost fear.

If now we can employ yet another test, one that is simple and painless, one that will remove at least some of the uncertainties that always exist to a greater or less degree in most of these cases, a test that will most likely give us a fair amount of positive evidence, the diagnosis will be more easily made and the surgeon relieved of much doubt as to the correctness of it.

It is to testing with the tuning fork, over the antrum and the teeth, the first and second molars, that is referred.

If now the antra are free and clear the tuning fork (C. & Co. being preferably used) will be heard with equal distinctness and for a like duration over each side and in either location.

Let me say in parenthesis that it is not well to explain to the patient just what is expected of this or perhaps any other test.

If now one antrum contains fluid the fork will not be heard so distinctly, perhaps very faintly, perhaps not at all, as occurred in one case, but if the opposite antrum is free the patient replies quickly and positively in the affirmative.

Given another case in which the symptoms are obscure, but transillumination gives a shadow on the left side and none on the right, with subjective symptoms inclining one to suspect disease of the left side, the use of the tuning fork placed on the left side was heard louder and longer than on the right; the natural deduction was that the left antral wall was thicker than the right, thereby the better favoring sound transmission and thus almost conclusively eliminating this cavity as the offending structure, and so subsequently it positively proved.

Quite a number of healthy cases have been thus tested with but slight variation in the result of the findings, but the experience of one person is barely sufficient upon which to base positive assertions.

It is, therefore, the writer's object to call the attention of his confrères, especially those who have unlimited clinical material, to the possibilities of this test which, so far as he knows, has not been before employed, and to be by them further elaborated or perhaps, as so often occurs in the nature of all things, to be rejected.

The same test was used with much satisfaction in a case of frontal sinus disease; it might also be employed in examining for ethmoid disease; certain it is that in disease of the mastoid bone conduction is much diminished if not altogether destroyed.

It is much to be hoped, alike for the benefit of the patient as well as for the surgeon, that this test will prove helpful, for if it does it will most certainly aid in clearing up some of the doubts of the diagnosis of disease of not only the maxillary antrum but of other superficially situated cavities.

EXTRADURAL ABSCESS FOLLOWING ACUTE SUPPURATIVE TYMPANO-MASTOIDITIS, WITH REPORT OF TWO CASES.*

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Fellow of the American Laryngological, Rhinological and
Otological Society, etc. *

While external pachymeningitis with extradural abscess gives the greatest number of recoveries, after proper surgical treatment, of any of the intracranial complications following suppurative disease of the middle ear or mastoid cells, it is of sufficient interest to be brought to the notice of this society, in the report of two cases which recently came under my observation, and again call attention to the great importance of early and thorough surgical interference in all cases of acute suppurative mastoiditis. The cases I have to report I was called to see in consultation on March 7, 1900.

Case I.—Male, age fourteen years.

Acute suppurative otitis media; mastoiditis; extradural abscess; multiple operations; recovery.

Family history negative. Had never had ear trouble. For about two weeks prior to my seeing him had suffered from an attack of influenza, principally affecting the nose and upper respiratory passages. For several days there had been an unusual amount of bloody mucus nasal discharge. Thirty-six hours before I saw him, he was suddenly seized with excruciating pain in the right ear and radiating over the entire right side of head; no discharge from ear. Dullness of hearing gradually developed. Palliative measures, such as heat, cathartics, etc., had been used, but without relief.

Examination: patient's face flushed, facies indicative of great suffering, both nasal chambers extremely congested, swollen and small erosions of the mucous membrane with slight bloody oozing. The pharynx and naso-pharynx in practically the same condition, except no erosions could be seen. Right ear, canal partially occluded by dead epithelium, which also forms a covering for the membrana tympani. With a cotton-tipped probe this was cleared away, showing the membrane intensely congested over the entire

* Read before the Jefferson County Medical Society, July 10, 1900.

surface and bulging. No redness or swelling over the mastoid region, and only slight tenderness on deep pressure over the tip. Left ear negative. Temperature 103° ; pulse 120.

He was sent to the hospital, and under general anesthesia an incision into the membrana tympani was made with a free discharge of pus. The aural ice bag was ordered over the mastoid and the ear syringed every two hours with a warm carbolic acid solution. For the four days following, the range of temperature was from $99\frac{2}{5}$ – $103\frac{1}{5}$; pulse 78–105, with a copious, thick, purulent discharge from the ear, which could be seen to come from the direction of the attic. Membrana tympani again freely incised and carried well up into the attic. Syringing kept up, ice bag discontinued, as the mastoid tenderness had about disappeared.

From this time the case progressed favorably till March 16th, when his temperature rose suddenly, marking 103.8° at 9 a. m.; 104.8° at 11 a. m.; 105° at 3 p. m., and 105.2° at 5 p. m. Slight mastoid tenderness on deep pressure, more marked at the tip, no swelling or redness. The postero-superior canal wall close to membrana tympani was very little changed, membrane bulging at upper posterior part, the opening into the membrane pouting and teat-like, with no attempt at repair. In view of this sudden change in his condition it was thought inadvisable to delay longer, so that after the usual preparation the mastoid cells were opened, following the method of Schwartz. The antrum and cells were found filled with pus. The bony septa were broken down and the cells thoroughly curetted together with the aditus and antrum, establishing free communication with the attic. It was *thought* at this time that a very thorough operation had been done and all diseased tissue removed. Patient complained of some pain following the operation, and the next day (March 18th), twenty-four hours after the operation, his temperature reached 104° . Wound was dressed and slight amount of pus retention found. This was washed out thoroughly with mild bichloride solution and an antiseptic dressing reapplied.

March 22d. There has been a copious purulent discharge from the middle ear for several days, temperature from 100.4 – 103.8° ; pulse 80–100, some tenderness and slight swelling immediately above the external auditory canal, otherwise patient is very comfortable. In view of the run of temperature and the continued copious purulent discharge it was thought wise to do a further exploratory operation. Accordingly the primary wound was enlarged, the incision being carried upward, then forward to the

zygomatic arch. The fibro-cartilaginous canal and periosteum were separated from their osseous attachments and divided transversely close to the membrana tympani.

During this step of the operation about a half drachm of pus was evacuated from between the periosteum and superior canal wall. The bony partition between the attic and mastoid antrum was now removed, converting them into one cavity. There was twitching of the muscles of the corresponding side of the face, during this procedure, indicating close proximity to the facial nerve, which, however, was not injured as no untoward effects followed. Wound was dressed in the usual manner and the patient put to bed at 1 p. m. At 5 p. m. his temperature was 104.6° ; it gradually fell from this time till the following morning at 9 o'clock, when it was 97.8° . For one week following this procedure there was epigastric pain, persistent vomiting and gradual exhaustion. On the fourth day there developed pain in the left hip and muscles of the thigh, dysphagia and slight swelling and tenderness over the larynx. No fluctuation detected. Voice clear and laryngoscopic examination negative.

On the eighth day he complained of pain and stiffness in the muscles of the neck. Temperature remained normal for three days, then ranged from 99.8° to 101.8° , until the tenth day, when it rose to 103.4° in the evening, with restlessness, delirium, crying out of pain in the hip and spitting constantly. The following morning the posterior group of thigh muscles was in almost tonic spasm. Thigh flexed on the trunk and leg on the thigh. Any attempt to disturb this position elicited great pain. Right leg negative. The dysphagia and swelling over the larynx disappeared in two weeks. Stiffness in the muscles of the neck, pain in the left hip, spasm of the thigh muscles, nocturnal delirium, but perfectly rational during the day, increasing exhaustion, and temperature range about as above recorded continued, until April 12th, when there was added to this train of symptoms, headache, slight tenderness above the mastoid antrum and over the occipital region. Ophthalmoscopic examination showed the eye grounds to be negative. From this array of symptoms it was evident there had been an extension of infection to the intracranial contents. Therefore after thorough preparation the wound of previous operation was enlarged backward and downward, exposing the sigmoid sinus, which could be felt to pulsate and otherwise healthy. In cutting away the bony covering to the sinus it was punctured by a spicule of bone, free hemorrhage followed, but was easily controlled by iodoform gauze tampon. The wound in

the bone was still further enlarged posteriorly, exposing the surface of the cerebellum; the dura mater was incised and punctures made in several directions, but without result. Enlarging our wound upward a small epidural collection of pus and debris was found just above the tegmen antri. The opening through the tegmen was enlarged and the cavity lightly curetted. The wound was packed with iodoform gauze and a large antiseptic dressing applied.

The patient suffered very much from shock, but rallied gradually under hot saline enemata, cardiac tonics and external heat.

From the time of the last operation the patient's symptoms improved. Except for a cellulitis of the prevesicle space his condition was good. He was discharged from the hospital eleven weeks after the commencement of his attack with only a small sinus in the mastoid region.

An interesting feature noticed in this case was a peculiar ataxic gait. In walking the legs were spread, and to raise the leg the body was tilted to the opposite side, producing a waddle. He was also unable to raise his legs from the chair when sitting, without the assistance of his hand. This gradually improved and is very little noticed at present. The question that suggests itself to me is: Could there be any relation between this and the exploration of the cerebellum?

Case No. II.—Male, age nineteen years.

Acute middle ear suppuration; mastoiditis; perisinus extradural abscess; operation; recovery.

Indications for operation were the long-continued profuse discharge with a suspicion of mastoid tenderness.

This case was first treated for acute suppurative otitis media following grippe, the symptoms of which subsided after free paracentesis of the membrana tympani, except that a very profuse discharge continued. This did not, however, incapacitate the patient for work, as he attended to business up to the time he was sent to the hospital for operation. Finally after waiting six weeks for the discharge to cease, and with this and the slightest suspicion of mastoid tenderness as the only indications, aside from a slight afternoon rise of temperature to 100°F. for two days before operation, I operated and found the whole mastoid in a very necrotic condition and filled with pus. The inner mastoid cortex had entirely disappeared, exposing about half an inch of the sigmoid sinus, which was surrounded by and bathed in pus and necrotic tissue. The facial canal as it passes along the floor of the aditus and antrum was involved in the carious process and the nerve was injured in its

removal, producing a slight facial paralysis. From this time on the patient made an uneventful and unusually rapid recovery. The facial paralysis had entirely disappeared four weeks after the operation.

This case demonstrates the treacherous and insidious nature of the disease and illustrates why delay is dangerous. With the entire destruction of the mastoid, and the sigmoid sinus surrounded and bathed in pus, this patient was attending to his business up to the very day of the operation, and it was difficult for him to understand that an operation was imperative.

Pyogenic diseases of the brain, complicating suppurative otitis media and mastoiditis, is of the greatest importance to us, not only as otologists but as general physicians; for the "family doctor" is usually the first consulted, and upon his ability to recognize and differentiate between the many conditions that might occur in this region, and the appreciation of the disastrous results when not dealt with promptly, will depend the well-being of his patient. Manifestly, then, there is great necessity of a thorough examination in all cases of suppurative middle ear diseases with a view of determining the extent of the process, and especially so in cases complicating influenza, as I have come to look upon this particular infection with greater anxiety regarding the dangerous complications than any other we have to deal with. When once beyond the tympanic cavity its virulence is shown by rapid destruction of the mastoid walls, and if not relieved by surgical interference is apt to involve the meninges or brain in a purulent inflammation.

From the investigation of 1,750 cases of suppurative ear diseases, Teichmann found that the suppuration, influenza-otitis, almost always runs an acute course up to the inception of the dangerous complication, while in the otitis of measles, diphtheria and tuberculosis it runs a chronic course.

Knapp also says: "The grippe is a frequent cause of mastoid caries." Where there is a very rapid destruction of the internal or posterior wall of the mastoid or the tegmen antri there is apt to be a rapid disintegration of the dura mater and arachnoid membrane, opening the way for a general septic meningitis.

In this class of cases there is not sufficient time for adhesions to form between the membranes, and when the septic material passes beyond the arachnoid, general lepto-meningitis is inevitable, as the infection is then within the sub-archnoid space and beyond our control.

Fortunately only about one-quarter of the intracranial complications follow acute suppuration of the middle ear, while chronic otorrhea is responsible for three-quarters.

Macewen in his work on pyogenic diseases of the brain and spinal cord, page 293, says: "Acute purulent otitis media seldom occasions intracranial complications. When such occurs, the invasion is generally so rapid that the intracranial involvement occurs before opportunity is given for radical intervention, though direct and prompt application of antiseptics to the middle ear and mastoid antrum and cells aids in preventing the further extension."

In suppurative otitis media or mastoiditis, either acute or chronic, from which there is an extension to the interior of the skull, the alternative, whether a localized pachy-meningitis with extradural abscess, general lepto-meningitis or brain abscess results, depends upon the nature and virulence of the infective agent or micro-organism and partly upon the intensity and rapidity of the inflammatory action.

External pachy-meningitis, with epidural abscess, is the result, usually, of a primary focus of infection from without and this infection in the large majority of cases is a suppurative inflammation of the middle ear, mastoid antrum or cells. How important then prophylaxis is in considering the treatment. Acute purulent otitis media should not be treated in a temporizing manner, as a great many physicians are in the habit of doing; our best efforts should be exerted to arrest it before extension to any of the accessory cavities and thus do away with further possible complications. Chronic suppuration of the tympanic cavity with ulceration of the mucous membrane and caries, which are the usual accompaniments, is of paramount importance in the prophylaxis of intracranial infective diseases. It is a constant menace to the life of the individual, and none of us can say when a dissemination of septic material may take place, producing some form of pyogenic brain disease, jeopardizing the life of our patient, and oftentimes putting him beyond the border line of safety. Chronic otorrhea should not be regarded too lightly or considered an inconvenience or troublesome sequela; but it is our duty as physicians and advisers of public health, to impress upon all patients the great importance of having such conditions properly attended to and in that way do a great deal toward reducing the mortality of infective brain disease.

Why physicians in general have been slow to recognize the importance of chronic purulent otitis media or mastoiditis as bearing upon the etiology of suppurative brain diseases, I cannot understand,

for anyone familiar with the anatomy of the parts, and the pathology of the disease, is forced to recognize its dangerous nature.

In all cases of continued chronic purulent discharge from the middle ear, the attendant should not be satisfied until the discharge is cured. An otherwise incurable otorrhea must be regarded as a proper indication for surgical measures so soon as it can be determined that its origin is somewhere outside the tympanic cavity. A supervening mastoiditis should be an imperative demand for surgical interference; by that I mean radical; search for and thoroughly eradicate every focus of infection and vestige of carious bone; by doing this you will not only eliminate the possibility of further extension, but you will lessen by weeks your patient's convalescence and save life by what was apparently a radical and uncalled-for procedure.

The two cases reported in this paper are an ideal object lesson, as they were seen at the same time, under the same conditions and received the same treatment with this exception, that in Case I at the primary operation I was not as thorough as I might have been and thus allowed time for disintegration and extension of the process and the undermining of the patient's strength from septic absorption which necessarily reduced his recuperative power and prolonged his convalescence; whereas in Case II a thoroughly radical and extensive operation was done, which at once arrested the disease and greatly lessened the period of convalescence.

In conclusion, I would emphasize that in suppurative diseases of the middle ear, we should be alert to the desirability of a permanent cessation of the discharge, and in mastoiditis the thorough opening of the mastoid cells and eradication of all diseased tissue; for this is our sheet anchor in the prophylactic treatment of pyogenic brain diseases. After extension to the brain or its membranes has occurred radical surgical intervention holds out the only hope of recovery, and is to-day the only recognized treatment.

No. 35 Washington Street.

NECROSIS OF TURBINATED BONES AND ADJACENT STRUCTURES.

BY J. W. BIRD, M.D., STEVENS POINT, WIS.

The following case is somewhat out of the ordinary, and, to say the least, a particularly interesting one:

Mr. S., age thirty-four, strong and healthy in appearance, presented himself for catarrhal treatment at my office, July 7, 1899.

Personal History.—Had had a purulent and bloody discharge from the right nostril for about five years, with pain more or less severe, at frequent intervals.

No knowledge of acquired or hereditary syphilis.

Several years before had received two severe blows on the nose, but not considered serious.

Family History.—Father died of pneumonia at sixty-four years of age. Mother living and in good health. One sister died of pharyngeal tuberculosis at twenty-three years of age. Two brothers died of consumption at twenty-five and twenty-seven years of age respectively. Other children of the family living and in good health.

The patient had used the usual array of catarrhal specifics with no relief; but had never consulted a specialist.

Upon examination the nostril was found to be nearly filled with dried blood and pus, and the debris of the broken-down inferior turbinated bone.

The cotton applicator was all that was necessary to remove some fragments of necrosed bone, and the diagnosis was easily made.

The necrosed bone in illustration No. 1 was removed with the first operation, which consisted of thorough curetting, and the use of nasal burrs to remove all diseased bone.

The operation was followed by the daily use of antiseptic sprays, peroxide of hydrogen and a dressing of aristol.

Immediate relief followed this procedure, lasting till about January, 1900, when all of the symptoms were greatly exaggerated.

Purulent discharge much increased, severe pain in nose and side of head, and swelling on right side of nose, extending up to the eye.

These local manifestations were accompanied by fever and night sweats.

An examination revealed an opening from where the inferior turbinated had been detached through to the antrum of Highmore.

The antrum was syringed with peroxide (50%) solution and resorcin (20%) solution for several days.

Exposed bone could be found, but antrum infection seemed to be the important feature.

No improvement followed the antiseptic treatment of the antrum, and in March, 1900, a second operation was resorted to for the removal of necrosed bone.



No. 1.

No. 2.

The bones, No. 2 in the illustration, were removed, and they comprise all of the superior maxillary that form the outer wall of the nostril and the base of the antrum of Highmore.

After the sequestrum was removed the cavity was curetted and peroxide of hydrogen and resorcin solutions were used daily for about three months.

At the time of the second operation the patient was put upon potassii iod., 15 grains a day, and this increased to 60 grains a day, and continued for three months.

Three months after the second operation the patient was practically well, and at present, November 1, 1900, has no trouble with the nose and feels better than at any time for the past six years.

SOME NOTES ON ROUTINE OFFICE WORK.

BY E. C. ELLETT, M.D., MEMPHIS, TENN.

Formerly House Surgeon in Will's Eye Hospital, Philadelphia; Ophthalmic and Aural Surgeon to St. Joseph's Hospital, the Children's Home, the Lucy Brinkley Hospital, the City Hospital and the Shelby County Poor and Insane Asylum, Memphis.

RECORDS.

Numerous systems for keeping records have been devised, and from the number each practitioner probably gradually evolves the one best suited to his individual needs. The case book was the first system that I used, and after deserting it, returned to it. I have now finally discarded it, as the best made books wear out from much handling, the method is not sufficiently elastic, and is not as convenient to handle as a system of separate sheets. In using the sheets, I first used plain sheets of letter size paper in tablets, filing them in letter files. Printed blanks save some writing, and having blank spaces for certain data is conducive to more systematic and hence more thorough habits in the matter of record making. An unfilled space stands as a mute witness to the fact that the examiner was remiss in a certain particular. My blanks are printed and put up in tablets, two in number, one for eye examinations (with which this article does not deal) and one for the ear, nose and throat.

EAR, NOSE AND THROAT.

| | |
|--------------------------------|--|
| Date | |
| Name | Age |
| Res | |
| Referred by | |
| A. D. w..... in wh..... v..... | Galton..... low. tone..... Rinné..... |
| A. S. w..... in wh..... v..... | Galton..... low. tone..... Rinné..... |
| Ossic. Mob. { A. D..... | Eus. Tubes { A. D..... M. T. { A. D..... |
| { A. S..... | { A. S..... { A. S..... |
| Tinnitus | |
| Nose—R | |
| L | |
| Naso-Pharynx | |
| Oro-Pharynx | |
| Larynx | |
| History, Etc. | |

The chart, which is here reproduced, is self-explanatory.

More elaborate charts, even separate books, have been devised, but I find the information recorded on mine is sufficient for all purposes, and to write a book about each patient leaves but little time for treatment, especially as it is the experience of most otologists that they must keep their own records if they are to be of any value. Under the head of "history" the salient points are briefly noted, and what is not put down as present is supposed to have been absent. For instance, if it is not stated that a patient has an otorrhea it is taken for granted that he has not, and so with other facts. If no abnormality is found in the right nostril, or naso-pharynx, or left ear, as the case may be, a simple "O. K.," in the appropriate space, means as much as a lengthy statement that the parts are normal and certainly saves much time.

Letters from patients are pinned to their history sheet, as are reports from pathologists, other physicians, letters of introduction, etc. Both sides of the sheet may be used for the record, and other blank sheets pinned on will make each record indefinitely extensible. If more extensive tests of hearing with a series of tuning forks is made, they can be recorded in the "history" space or on the back of the sheet. The tests provided for will give all the information necessary for diagnosis in the vast majority of cases.

These sheets are filed in an upright wooden letter file containing drawers. When one such file is filled another can be obtained, and the lettering on the drawer pulls changed to give, if necessary, two or more drawers to a letter.

The interior arrangement of the drawers gives such a subdivision under each letter that a record is readily found. I believe that this system for convenience, small expense and, above all, elasticity, is superior to any that I have seen in use by other physicians. Of course I claim no special originality for it.

ILLUMINATION.

Some advantages may be urged in favor of each, daylight, electricity and gas, and each has disadvantages. Daylight is often not convenient, and is always variable. In using the electric light, a frosted bulb is necessary to eliminate the line-like images of the filament. This lessens the illumination materially.

The electric and argand light alike give a red color to all mucous membranes, making it difficult to detect slight changes and areas of greatest intensity of inflammation. Electric head-lights are rather cumbersome, not readily portable and prone to fail one at inopportune moments. In office work I have found the Welsbach

light, covered by a mica chimney (unbreakable) and over this a fenestrated asbestos chimney cover, to give the advantages of intense illumination and a light which closest resembles daylight.

It is a very hot light, but it is not readily affected by the breeze of an electric fan, provided this does not blow directly on the light. It is by far the most serviceable light in my experience.

In hospital and bedside work I prefer a frosted electric lamp attached to a long wire with plug. Most houses and all institutions are fitted with electricity, and this apparatus is easily carried in the satchel and can be used with the patient in any position and in bed, cannot be upset, and is not objectionable when ether has to be administered.

The mirror mounted on a head band has the advantages of absolute portability in and out of the office and I therefore prefer it to the fixed "laryngoscopes."

APPLICATORS.

It is astonishing what unsatisfactory applicators are put on the market. For nasal work I prefer one with a short (one inch) octagon metal handle, a heavy wire, with the "business end" either ground triangular or deeply grooved longitudinally. These forms catch the cotton readily, hold it pretty firmly yet permit of its being pulled off with sufficient ease. The ones with deep grooves are by far the best. The short handle gives a much more delicate touch than the long ones.

For post-nasal use I have an aluminum uterine probe cut off, turned up and the turned up part filed to a triangular shape.

For laryngeal use the cotton carrying end had best be irregularly roughened, made spiral or perforated, as Lenox Browne suggests, for threading on a cotton tuft. These forms prevent the cotton from being pulled off, a serious accident in the larynx, though less so in the nose, ear or naso-pharynx. The cotton, after use, must be burnt off from the laryngeal applicator. For use in the ear my choice is for a much shorter applicator than is in general use. The wire is but two inches long, the handle one inch, as for nasal use, the distal inch of the wire in both cases being grooved for holding the cotton. Especially for aural use should the cotton tuft project well beyond the end of the wire to avoid accidental injury to the drum.

THE USE OF THE CATHETER.

In placing the catheter I have found much satisfaction in always using the rhinoscopic mirror. The patient holds the tongue de-

pressor, and with the mirror in one hand and the catheter manipulated by the other, the tube mouth is brought in view and the catheter placed snugly at once therein. Prodding and scratching the pharyngeal walls is avoided, and the certainty exists in the operator's mind that the beak of the catheter is where it should be. Practically all patients readily acquire the knack of relaxing the velum sufficiently to permit this, especially if the fauces are first brushed with a weak cocaine solution.

In inflating with the catheter, the compressed air tank is used. By using an old style cut-off, *i. e.*, not an "instant cut-off," a very feeble stream of air can be permitted to escape and its force increased at pleasure regardless of the pressure in the tank at the time. The "instant cut-off" work only when fully open and are for this purpose undesirable. By attaching a Buttle's inflator to the cut-off, any medication of the tube and tympanic cavity can be carried out. I have once ruptured an ear drum by using the compressed air connection with the catheter, but I have also done the same thing with the Politzer's air bag on one occasion. It is not an argument against the method.

INSTRUMENTS.

Instruments, except those in daily use, are conveniently kept in cases provided with glass shelves. Many instruments are packed in the small wooden boxes used for sending spectacles in the mail, the boxes being labeled on the ends and packed in tiers. They are thus easy to get at and fully protected from dust, etc.

COCAINE.

A morbid fear of contributing in some degree to the formation of the cocaine habit in some individual, has led me to keep the cocaine solution on my treatment table in an unlabeled bottle.

The curiously inclined have thus no way of seeing what the drug is. As this is the only unlabeled bottle on the table, there is no danger of confusing it with anything else, and if any meddlesome individual wants to sample it, it is his lookout and not mine.

ANTISEPSIS.

Besides cleansing my specula and treatment instruments by boiling and washing, they are given a bath in a bowl of formalin before each use. This bowl is on the table and I frequently tell patients what it is and why I use it, since it does no harm to let them know that these precautions are constantly taken against

communicating disease and it may serve to remove suspicion from you in case one of your patients should acquire (elsewhere) a chancre of the lip or some such lesion. The real avoidance of such a crime is of course the potent reason for these or similar precautions.

NAPKINS.

After trying various materials, I have had J. Elwood Lee & Co. make me gauze napkins, eight inches square, of two thickness of gauze, and hemmed to prevent the lint adhering to the clothing. They cost \$18.00 a thousand, and are destroyed after use.

The expense is more than compensated for by the pleasure you and your patients derive from their use. But the expense can be reduced by having them made at home from ordinary cheese cloth.

If the pieces are cut 8x16, and the threads so pulled as to make a fringe about one-eighth of an inch deep on the edges and this folded, it gives a napkin eight inches square, double thickness, and not liable to leave threads to escape and catch on the patient's clothing. The cheese cloth is softer than "sterilized gauze" and these napkins cost much less than those procured from the manufacturers.

I trust that some of these points, gathered and worked out in some nine years of practice, may be of benefit to others, not only beginners, but those who have met with some of the difficulties and disadvantages which I have tried with some success to eliminate.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, December 26, 1900.

WENDELL C. PHILLIPS, M.D., Chairman.

Papillomatous Growths.

DR. EMIL MAYER presented some papillomatous growths which had been removed from the larynx of a gentleman, thirty years of age, seen by him on January 2, 1900. He had been hoarse since the previous October. The growths had been found all over the larynx. He was under treatment from January to July, and at almost every one of forty sittings some of the growths had been removed. His voice had returned ultimately, and at no time had there been any recurrence of the growths. Several examinations and reports had been made by the pathologist of the New York Eye and Ear Infirmary, and always to the effect that they were benign in character. The case was interesting because it was rare to see so many papillomatous growths.

Epithelioma of the Larynx; Total Laryngectomy.

DR. J. W. GLEITSMANN presented a case of epithelioma of the larynx, together with the specimen. On section of the larynx there was shown a mass, which proved to be epithelioma. The right side of the larynx was absolutely intact, and when he had sent the patient to Dr. Gerster it had been for an unilateral laryngectomy. During the operation an extraneous gland had been found which was infiltrated with cancer, and it was for this reason that the surgeon had decided to excise the whole larynx. The patient was a man, sixty years of age, who in July had first experienced an abnormal fulness in the throat. The voice became weak and husky. Laryngoscopic examination showed diffused infiltration of the left arytenoid region, but nothing on the right side. He had deeply excised three pieces and submitted them for examination, and they had proved to be epithelioma. The operation was performed on November 30th, and was done in one session, first low tracheotomy

was made and then the larynx extirpated with hanging head. The man had been fed by the rectum until December 3d, and then for a few days by catheter.

DR. GLEITSMANN presented a second case. The patient had been first seen in July, and his tuberculous infiltrations were curetted three times during the summer. In the latter part of September the pain had returned, and his general condition had deteriorated. He had then begun treatment with parachlorphenol and had kept it up, two or three times a week, using it after thorough cocainization. This remedy had proved a failure in more than one case, but he thought the present one would have succumbed long ago for lack of proper nourishment had this treatment not been carried out. The patient had taken kalagua for the past three months (to be exclusive of all other remedies) and had gained over twenty pounds.

DR. WENDELL C. PHILLIPS said that three years ago he had presented a partial laryngectomy on a very recent case of epithelioma of the larynx, only one-third of one of the vocal cords having become involved. Nearly four years after the operation he had seen the case and the man was then in perfect health.

The diagnosis in this case had been made at a very early stage of the disease, which no doubt accounted for the success of the operation. The success of this case had tended somewhat to overcome his scepticism as to the benefits of operative procedure, in general, in these cases.

DR. R. C. MYLES said that he had had a case conjointly with a general surgeon, Dr. Bodine, almost identical with the one presented by Dr. Gleitsmann. A complete Solis-Cohen operation had been done, and for the first three or four weeks there had been much trouble with the nerves of respiration apparently on account of the dryness. About one year afterward he had been in fair health, and he had ultimately died from malignant disease of the stomach, but without recurrence in the larynx. On account of his experience in this case he would like to know whether Dr. Gleitsmann had encountered the same suffering after the operation. If not, then he would be very much encouraged in the use of this operation.

A Subglottic Papilloma.

DR. FRANCIS J. QUINLAN presented a characteristic papilloma of the larynx of the subglottic type. The man had had huskiness without dyspnoea for two or three years. In the previous two or three months he had acquired syphilis, and this had greatly intensified the

laryngeal congestion and promoted the development of these wart-like masses. Several have been removed by the Schrötter forceps at each sitting and the parts touched with Donovan's solution. No new growths visible and the others apparently undergoing atrophic change.

Tertiary Specific Disease.

DR. J. E. NEWCOMB presented a man who had had his initial lesion about ten years ago. About three years ago the destructive process had commenced, and had been aggravated by a severe injury to the jaw bone. The roof of the mouth had been so thoroughly destroyed that it was possible to look up directly into the antral cavities. The man had worn an obturator for a time and had done fairly well, but he had lost it and had not been able to procure another. With it in position the voice was fairly intelligible. The case closely resembled one that had been presented to this section a few years ago, but he had taken pains to assure himself that it was not the same case.

Lymphadenoma Cervicis.

DR. MYLES presented this case, and asked for an opinion regarding its probable pathology and as to the best procedure under the circumstances. The growth had been first noticed behind the tonsils, in August. The cervical glands had been removed by a surgeon, but no microscopical report was obtainable. The fungating mass was probably caused by the protrusion outward of the tonsil under tension. The question arose as to whether it would not be better to tie the carotid artery and do a thorough operation. If it were a sarcoma and all of the glands could be taken out he saw no reason why the case could not be cured. He had had two sarcoma cases, one of which had survived for five years, and the other for three years. The growths had been of a most malignant type of sarcoma, and the prognosis, as given by competent pathologists, most unfavorable. He would make an incision behind the tonsil and obtain a specimen from the deeper part of the tumor for microscopical examination, as a specimen from the cauliflower-appearing surface had demonstrated it to be tonsil tissue.

DR. M. D. LEDERMAN said that he had reported some years ago a case in which a small round-cell sarcoma had occupied the right side of the nose, and had filled up the posterior nares, being attached to the sphenoid. Both external carotids were tied before any radical

operation was done, to see the effect of this procedure. The growth was reduced about two-thirds in consequence of this. Later on the growth started to increase somewhat in size, and Dr. Dearborn performed a resection of the superior maxilla and removed the sarcomatous mass.

These operations are very bloody, and it is a good surgical principle to ligate the external carotids to prevent excessive hemorrhage, and at the same time to deprive the area of its blood supply.

This patient made a very good recovery, and was free from the disease three years after the operation.

DR. T. PASSMORE BERENS said that the growth was apparently an adeno-sarcoma. He did not see any necessity for removing the glands externally and then the tonsil internally; both could be easily removed through the same external wound.

DR. E. MAYER said he did not feel that in this case there was normal tonsillar tissue pushed in, but rather that the mass was an endothelioma of the tonsil. He had seen such a case, which was operated upon, and the patient had died within a year from a recurrence in another locality. He would certainly advise external operation, doing all at one sitting.

Supplementary Report on a Case Already Reported.

DR. T. R. CHAMBERS said that he had presented at the last meeting a case diagnosed as adenoma of the nose, though there had been a suspicion of syphilis. The man had since been put on mixed treatment, and as a result the tumors had disappeared.

In Memoriam, Dr. Rufus P. Lincoln.

DR. D. BRYSON DELAVAN delivered this address.

Papilloma of the Larynx.

Paper presented by DR. FRANCIS J. QUINLAN. This paper will appear in full in *THE LARYNGOSCOPE*, March, 1901.

DR. W. K. SIMPSON said that he had been interested in the statement made in the paper about the number of cases in which adenoids had been present. He would like to know whether it had been noted that the removal of the adenoids had caused any reduction in the size of the growth as a matter of reflex influence.

DR. W. F. CHAPPELL said he believed the only way to treat recurring papilloma in children was by tracheotomy. For many years he had followed the usual custom of trying to remove these

growths through the mouth and by opening the larynx and scraping it, and with results which those present were familiar with. A few years ago he had done tracheotomy in a case having nine papillomata of the larynx. Nothing else had been done, yet they had entirely disappeared. Since then he had had three similar cases with an equally good result.

DR. MAYER said that somewhere in the confines of Georgia was a laryngologist who should put all the rest of us to blush, as he had reported six cases, some even occurring in young and rebellious children, and yet he had been able to see the papillomata at the first examination and remove them at once with a snare. Certainly this gentleman deserved to be congratulated. Dr. Louis Fischer claimed to have had good results from medication applied to the outside of an intubation tube.

DR. N. H. WILSON said he also wished to emphasize the value of the rest cure in these cases. In one exceedingly troublesome case of recurrent papilloma there had been no improvement until he had desisted from local treatment.

DR. QUINLAN said that when a tube was inserted the parts above were placed in an unnatural state of rest. It seemed to him that the larynx should open and shut as in the natural state; hence he thought that the treatment should be first directed towards removing faulty conditions above, viz.: in the nose or rhino-pharynx. The paper was a greater plea for a more thorough exploration and medication of the upper-air tract.

INTERNATIONAL MEDICAL CONGRESS.

SECTION OF LARYNGOLOGY AND RHINOLOGY.

Summary of Proceedings—Sessions of August 7, 1900.

(Proceedings continued from page 80.)

Pathologic Anatomy and Diagnosis of Singer's Nodules—O.

CHIARI (Vienna).

Various laryngeal lesions are described under the name of singer's (or vocal) nodules. In this paper only the following are studied: These nodules are round or slightly elongated, and lie upon the free border of the vocal bands, more frequently at the junction of the anterior with the middle third. They are always symmetrical. In color they are yellowish white or reddish white. Ordinarily they have a glistening surface and are sessile and opaque. In size they may become as large as a pin head. Special characteristics distinguish them from fibromata, cysts, papillomata and other neoplasms, likewise from tubercular or syphilitic nodules. They never ulcerate and seldom disappear spontaneously.

Authors have different opinions as to their frequency. Chiari has observed them in one-half to one per cent of all laryngeal cases, and about double as often in the female as the male. Perhaps this is due to the fact that the former pay more attention to the voice than the latter. Above all, these nodes are to be observed among singers, although they are not uncommon in children.

The following are causes: Acute and chronic catarrh of the larynx, overstrain of the voice, and perhaps defective method of singing. Most writers consider these nodules a form of hyperplasia of the epithelium and of the superficial fibres of the vocal band. This opinion is confirmed by histologic observations, which are considered in the report. Finally, Chiari gives his personal observations resulting from his investigations, and comes to the conclusion that the mucous glands only very exceptionally take part in the formation of these nodules.

Concerning Singer's Nodules—H. KRAUSE (Berlin).

Singer's nodules are small round bodies, ranging in size from a pin point to a millet seed, located on the edge of the vocal bands. They usually result from a misuse of the cord in singing, not in talking. Anatomically they are small fibrous bodies with a pachy-

dermal covering, containing fluid. They cause compression and atrophy of the elastic tissues.

The disturbances caused by the nodules manifest themselves in a difficulty of producing certain notes. This necessitates great exertion on the part of the patient, in attempting to supply those notes. Not only do the tones suffer greatly, but this high tension of the local bands results in the condition becoming gradually worse.

The treatment consists chiefly in rest. This will sometimes cause the nodules to disappear. Should this fail, the removal of the growth is justified in an attempt to restore the voice. J. S. M.

Treatment of Singer's Nodules—CAPART (Brussels).

The treatment of singer's nodules should be hygienic, medicinal and operative. Many writers report cures possible only after prolonged non-use of the voice, although it is rather bold to rely upon this alone. Rest of the organ will naturally have a real and beneficial influence upon the laryngitis which forms the basis of the nodules, but I have never seen it exercise the slightest influence upon the nodules themselves.

I include under the head of medicinal treatment, insufflation and spraying, astringent or antiseptic, applications of solutions of nitrate of silver, and above all cauterization with pure or mitigated nitrate of silver or chromic acid, which is applied with a series of ingenious instruments devised for this purpose. All these means are inefficient if not harmful. The active material diffuses itself beyond the desired limits and may cause an acute inflammation whose duration and extent cannot be foreseen.

The operative treatment, therefore, is the most satisfactory, and no distinction in this regard should be made, whether one prefers the simple ablation or galvano-caustic destruction. As a general rule it is not wise to use instruments which act like a punch on account of the risk of cutting off what is not desirable to remove, and injuring subjacent tissues and thereby compromising the singing voice. Preference should therefore be given to very fine and delicate forceps, like those of Schmidt or Jurasz, or those which I have recommended for years and which act from before backwards as well as laterally.

We need not fear to remove the nodule in its entirety at its base. When we consider the brilliant success of Professor Labus, who recommends flaying (*scorticamento*) of the cord, there is no reason to fear that we may pass beyond the limit of the disease.

The galvano-caustic treatment should be reserved for those cases where the growth is so small that it cannot be seized between the blades of the forceps or to equalize the edges of the cord after an insufficient extraction. Recurrences are possible. The best means of preventing this is to insist on vigorous hygiene. After the operation absolute silence should be enjoined for some time and singing should be avoided for at least a month. An absolute change of method, register or teacher may be necessary. Finally, it is wise to spend a time at Ems, Mont-Dore or Luchon.

Laryngeal Nodules; a Therapeutic and Anatomic-Pathological Study—J. GAREL and M. BERNOUD.

This paper is based upon a study of 144 cases of laryngeal nodules. The nodule is a special trouble which is not found in singers alone. It consists of a small sessile tumor, most often bilateral and located at the juncture of the anterior third and of the middle third of the vocal cord. Laryngeal nodules occur much more often in women than in men, and are very frequent in children. They may follow a subacute or chronic laryngitis. They are frequently caused by excessive vocal exercise or a bad method in teaching singing.

Cure of the nodules may be spontaneous in recent cases. It is hastened by sulphurous medication. In chronic cases surgical treatment is absolutely necessary. Destruction by chemical caustics cannot be limited with precision. Garel has often used the galvano-cautery with success, but at present he much prefers forceps, which permits of the removal of the nodules with mathematical precision.

Microscopic sections were presented to demonstrate the varying nature of these nodules. Fränkel's opinion that there is always a glandular neoplasm or alteration is entirely incorrect.

Laryngeal Arthritis—ESCAT (Toulouse).

Outside of laryngo-typhus and tertiary syphilis of the larynx but little importance has been attached to articular diseases of the larynx up to the present time. The reason that acute arthritis and ankylosis of the laryngeal articulations have attracted so little attention is that they have been constantly mistaken for laryngeal paralysis: crico-arytenoid arthritis for paralysis of the recurrent, and crico-thyroid arthritis for paralysis of the external laryngeal. The clinical similarity is enhanced by the laryngoscopic picture.

Crico-arytenoid arthritis (acute) is differentiated from recurring paralysis by the following signs: 1. Dysphagia. 2. Painful

cough. 3. Variable tumefaction of the arytenoid elevations. 4. Sharp pain on pressure behind the posterior edge of the rings of the thyroid cartilage. 6. No riding of the healthy arytenoid on the diseased one. 7. Frequent although unequal bilateral arthritis.

Crico-thyroid arthritis (acute) is differentiated by the following signs: 1. Painful vocal effort even when the voice is raised. 2. Persistence of the contractions of the crico-thyroid muscle during such effort. 3. Pain in the crico-thyroid articulation on pressure.

Ankylosis of these two articulations are still more difficult to recognize. Whilst the arthritis is stubborn to electrotherapy it yields readily to revulsives. The ankylosis requires dilatation, intubation and massage and is more difficult to treat.

Treatment of Deflections of the Septum—E. J. MOURE (Bordeaux).

Up to the present the method of Asch, of making a cross-shaped section, seems to have given the best results. The author not having found this satisfactory in all cases employed a method which differs radically from this.

When there is a spur or a thickening of the fibro-cartilage at the deflection he begins by suppressing the cartilaginous point and smoothing the septum as much as possible, in such a manner as to leave nothing but the deviation of the septum. As soon as the mucous membrane is found again on the surface, about a month later, the following operation is made: After having cocaineized the two surfaces of the septum an incision parallel to the floor of the nasal fossæ is made. This is about two centimeters long. A second incision is made along the vestibule. A triangular flap is thus obtained which is easily movable. Then introducing a special dilating tube, formed of two blades which are parallel, the external of which is fixed and rigid and the internal much larger, of malleable metal, the septum is flattened by forceps and hoe. The dilator is permitted to remain in place seven to eight days so as to obtain perfect healing of the cut parts. During the first forty-eight hours, when a more or less intense inflammatory condition arises, the nose is bathed in boiled boric water. A few applications of the spray suffice to prevent the accumulation of crusts which tend to form in the interior of the nasal fossæ. The employment of this method for two years past, in adults, has always given excellent results.

In children it is more difficult to use this method, and, besides, it is hardly proper to practice these operations before the nose is fully developed.

Pseudo-Hemoptysis of Naso-Pharyngeal Origin — RICARDO BOTET (Barcelona).

The author has seen twenty cases of this sort in ten years and literature contains little or nothing on the subject. In almost every case where a patient expectorates blood, the chest symptoms being negative, the cause of this false hemoptysis is located in the naso-pharyngeal cavity. The author mentions six cases in each one of which there was little or no coughing, the patient noticing blood in his sputum. If one of these hemorrhages be examined blood is seen to ooze behind the velum palati, along the posterior wall of the pharynx. If a cotton-covered probe is carried to the vault of the pharynx hemorrhage is frequently excited; in any case the cotton is much stained with blood.

In studying the pathology the author finds the mucosa eroded, and, where crusts form, desiccation of these takes place, they drop off, leaving the openings of the capillaries exposed as before. Finally, the author has frequently observed in similar cases small black crusts attached to the tonsil of Luschka and more often to the vault of the pharynx. When these crusts are touched with a probe the hemorrhage is produced, thus showing the naso-pharyngeal origin of this pseudo-hemoptysis.

Treatment of Chronic Pharyngitis—CAMILLE SAVOIRE (Paris).

The difficulty experienced by those who have devoted their attention to the treatment of chronic pharyngitis, arises from the fact that swabbing, spraying solutions, medicated powders, chemical or physical cauterizations cannot reach the folds of the diseased mucosa. The author describes a manner of treating which consists in the use of antiseptics easily volatilized, which afforded a large number of cures in his private practice during the past three years. After having treated the nasal lesions of a mechanical nature (which are the most frequent cause of pharyngitis) by appropriate medical or surgical treatment, re-establishing to the greatest degree possible nasal permeability, he begins the following treatment:

1. Lavage of the naso-pharynx by means of one of our two douches—anterior nasal or posterior nasal, according to the tolerance of patients—to remove, morning and evening, the mucus which accumulates in the naso-pharyngeal cavity, with $\frac{1}{2}$ litre of a 1 per cent solution of phenosalyl.
2. The lavage is followed by a nasal inhalation lasting four to five minutes with a teaspoonful of the following solution:

Formol 0.05, Menthol 10.00, Gomenol 10.00, Chloroform 10.00, Eau de cologne 100.00.

3. Every evening we have the naso-pharynx touched with the two following solutions: (a) Saturated aqueous solution of resorcin (15 to 10). (b) Menthol 1.00, Tincture of iodine 5.00, Glycerine 10.00 This treatment, in nowise painful, generally brings about a cure of the most stubborn cases in a few weeks.

Hypertrophy of the Tonsils and Adenoids—H. CUVILLIÉR (Paris).

The author treated 2,785 children, of which 1,171 were female and 1,614 male. He found 569 simple hypertrophy of the tonsils, 106 simple adenoids, 1,156 hypertrophy of the tonsils and adenoids coexisting. In hypertrophy of the tonsils the mean age was five to seven years, but adenoids occurred even in sucklings.

In hypertrophy of the tonsils there are two types, and in adenoids three. In 2,019 cases of adenoids the respiratory type alone occurred 1,214 times; the auricular alone 75 times, and the mixed form 730 times. A radical operation is advised to prevent relapses.

On Vowels and Consonants—GELLÉ (Paris).

The author demonstrated by means of the phonographic tracings which he presented not only the differences in the various vowels and consonants, but also the individual differences due to the different manner of speech in various subjects. By means of these phonographic tracings the author has also been enabled to demonstrate faults in pronunciation, certain faults in speech. Thus in a stutterer he found between the sounds A and I the sign of E, which by the slowness of the elevation of the tongue is very distinctly formed.

Tonsillitis Streptothricia—P. HELLAT (St. Petersburg).

This name has been given to a disease very often observed by the author. He examined about ninety cases of this disease and found the tonsils covered with several kinds of streptothrix. Inoculations on animals and cultures did not succeed. As clinical symptoms of this disease, may be mentioned periodical pains, paresthesia, catarrh of the pharynx and contiguous organs, sensitiveness to pressure and slight swelling of the tonsils, as well as vocal disturbances.

The treatment consists in incising the tonsils and eliminating the streptothrix. The prognosis is good.

Hysterical Paralysis of the Left Vocal Cord, with Concomitant Paresis of the Sterno-Mastoid and Trapezius of the same Side, Anesthesia and Paresis of the Velum Palati, Disturbances of Deglutition and Hypersecretion—C. CHAUVEAU.

A woman, aged fifty-three, having had at eighteen a neuropathic paraplegia; some other signs of hysteria, notably small areas of analgesia. Following an irregular deglutition, she was suddenly seized by the following: Hoarse voice, disagreeable and very weak; very marked paresis of the left sterno-mastoid and of trapezius; nasal speech and regurgitation of food by the nose; abundant hypersecretion of viscous mucus. Anesthesia of the palate. On laryngoscopic examination, the left vocal cord immobile in abduction. Rapid disappearance of the trouble in a few days.

The paresis of the sterno-mastoid, of the trapezius and of the velum, coinciding with the paralysis of the vocal cord, seems to be one more clinical fact in favor of the phonatory role of the spinal cord.

A Case of Symptomatic Leucocythemia of a Tonsillar Lymphosarcoma, with Invasion of the Four Tonsils and Generalization to the Ganglia—C. CHAUVEAU.

C. R——, sixty-eight years. The faucial tonsils began to enlarge in March, 1899. Three months later invasion of the cervical ganglia. Slight dysphagia; preservation of general health. In January, 1900, enormous tumefaction of the two faucial tonsils; considerable hypertrophy of the lingual tonsil and less so of the pharyngeal. Enormous enlargement of the cervical ganglia. The ganglia of the axilla and groin are beginning to enlarge. No leucocythemia. General health continues good. Six months later, considerable reduction of faucial tonsils and cervical glands, but the lingual tonsil remains large. The pharyngeal tonsil has enlarged very little. Well-marked leucocythemia: 1 leucocyte to 30 red corpuscles. At a new examination, lymphosarcoma.

This case is interesting on account of the invasion of the four tonsils, the late leucocythemia in a case of lymphosarcoma, the persistence of health and the marked diminution of volume in faucial tonsils and cervical glands coming on so late.

New Tonsillotome—G. AJUTOLE (Bologna).

The author presented a very simple instrument to remove the faucial tonsils; a pair of scissors elbowed below the joint and have the cutting edges toothed. One of the blades is a little larger

than the other, and at its extremity almost makes a right angle. On the flat side there are teeth to engage the parts that are concerned. This instrument may also serve as a uvulotome.

The Importance of the Superior Pillar of the Tonsil and of the Supra-Tonsillar Fossa as a Cause of Phlegmonous Periamygdalitis, Complete Extirpation of the Upper Half of that Organ as the only Efficacious Preventive Treatment—RICARDO BOTEY (Barcelona).

Some patients have phlegmonous peri-amygdalitis two or three times yearly and the treatment of the removal of the tonsils, tearing, or ignipuncture, without enucleation, in the majority of cases does not prevent relapses. The danger lies in the superior pillar of the tonsil. Incision is rarely sufficient and the method may succeed, but the radical enucleation of the upper portion of the gland is the only proper method. There are cases in which the extirpation of the upper third is impossible so close are the adhesions. The author in such cases uses a cutting hook, cutting from without inwards and shaving a part of the soft palate. Other operations are detailed, but in all of them the hemorrhage is very moderate, and when properly performed peri-amygdalitis is never again seen.

Contribution to the Treatment of Hypertrophic Tonsillitis by Tearing—RUAULT.

The author recalls the fact that the principle of his method of removal of the tonsils by means of his cutting forceps consists in first crushing the tissues and not cutting until after the crushing. His forceps are not cutting. Instrument makers sell to-day under his name forceps which cut and do not crush; this is a mistake which he desires to absolutely repudiate. Besides, in certain cases, the simple crushing of a pedunculated tonsil between the jaws of an ordinary flat forceps is sufficient to cause the disappearance of the gland by compression.

INTERNATIONAL MEDICAL CONGRESS.

SECTION OF OTOTOLOGY.

Summary of Proceedings—Session of August 8, 1900.

(Proceedings continued from page 82.)

Right Purulent Otitis Media, Polypus; Cerebral Abscess and Left Hemiplegia. Trepanation of the Mastoid, Temporal Hemicranisation, Antrectomy; Cure—COSTINUI (Bucharest).

A patient of thirty-six, whom the author saw, suffering for twelve months from an otorrhea, with fetid pus and polypus in the meatus, was suddenly seized with a flaccid left hemiplegia accompanied by right ptosis. At the same time he complained of violent pains in the temporo-frontal region, temperature 38.4°C , no vomiting, vertigo or torticollis. The diagnosis made was cerebral abscess; an opening into the apophysis brought nothing; on the contrary, an aspirating puncture at the lower part of the temporal lobe allowed the escape of fetid pus. The wound was closed after having been drained. A half hour later the left side could be moved, and the temperature fell to 37°C .

From the fact that the patient took a long time to improve, that he had at several times had loss of consciousness, surgical measures were again used; a large quantity of fungosities was found on the meninges and curetted; the wound was drained. Following this operation the patient improved; to-day he is cured.

In the pus were found only anerobic bacteria, which may be proteus vulgaris and coli communis.

Note on a Method of Curetting the Attic and of Removing the Ossicles—M. VACHER (Orleans).

The author employs a method which permits him to reach the attic without detaching the auricle and which has always given him good results.

The upper half of the membranous canal is detached and brought outward by means of two horizontal incisions, the one posterior and the other anterior, beginning at the bottom of the canal. They involve the whole thickness of the tissues from the tympanum to the auricle. This being done, the upper half of the canal is detached with a small, blunt spatula, taking care to spare

it. This detached upper half, is pulled forward by means of rat-toothed forceps; then with a bone scraper the shred and the periosteum are removed above and without; thus more than half of the bony part of the entrance of the canal is exposed to view. So that, in this manner, the ossicles may be removed and the attic curetted, after having forced the wall with the hollow gouge. The entire upper wall of the canal may be removed and also the upper quarter of its outside wall. Thus there is obtained a large cavity. The operation being concluded, the canal is put back in place, it being held firmly agglutinated by a narrow band of gauze to the upper external wall to avoid atresia. If the separated portion of the canal is too much broken down it might be resected.

This procedure is easier, more rapid than that of the detachment of the auricle.

Indications for the Operative Treatment of Chronic Purulent Otitis Media—HEIMANN (Warsaw).

There undoubtedly exists a class of otites which heal spontaneously or give way to medical treatment. But the majority are rebellious. Nevertheless, there always exists an indication to begin with a conservative medical treatment, unless there are plain indications for more active interference. When medical treatment, including even small interventions by the canal, fails, then only is one justified in operating through the mastoid.

The indications for the opening of the mastoid apophysis were discussed at length at the last International Congress held in London, but these discussions did not tend to any very positive conclusions.

It is beyond all doubt that when endo-cranial complications or general infection threaten, and with more reason when they have been produced, there can be no hesitation, and operative measures are absolutely necessary. They are equally so in cholesteatoma, in necrosis of the temporal, in the case of bony fistulas, of abscess and in tuberculosis of the temporal, if the state of the patient permits of it.

But, in otorrhea, in which these complications do not exist, an operation is relatively indicated. And there is no necessity to hurry matters because some patients may still be benefited by medical treatment; besides it is difficult to point out the delay beyond which, if it has not succeeded, it is useless to continue it. Finally, intervention must not be made if the otorrhea is especially due to a morbid process in the tympanic mucosa.

Peritympanal Fistulas and the Spontaneous Petro-Mastoid Emptying in Suppurating Otitis Media—M. RAOULT (Nancy).

Since the works of Luc, Lubet-Barbon, Broen, of Lombard, Mignon and Weissmann, it is known that suppurations of the apophysis may open in the bony canal. This suppuration may show itself in the canal without there being perforation of the tympanum; in fact, it often occurs that the tympanal lesion, after having spread to the antrum and to the cells, recedes, and the latter continue to suppurate through fistulas of the posterior wall of the canal.

There are two types of fistulæ: the postero-inferior, due to the opening of the inferior limitrophic mastoid cells, diseased at times without implication of the antrum; the postero-superior, due to necrosis of the lower wall of the antrum.

They are located against the tympanum and bounded, in chronic cases, by a membranous wall.

The author cites a case in which this lesion was bilateral.

In another case, the loss of substance was constituted by a large cavity encroaching upon the posterior part of the tympanum in all its height, separated from it by the bony frame, which seemed intact.

From these facts, the author reports two personal cases in which there was complete reunion of the attic, of the antrum and probably of the limitrophic cells, and he establishes an analogy between these different stages of bony destruction of the walls of cavities in course of suppuration in chronic otitis.

These losses of substance may heal spontaneously, but most frequently they require to be treated energetically.

Special Demonstrations.

The members of the Section of Otology, at the close of this session, went to the Ecole de Médecine, where Prof. Politzer and M. Panzer, of Vienna, exhibited a series of pictures of sections of the ear.

Demonstration of Prof. Politzer:

1. A preparation showing sections through the tympanic cavity.
2. A preparation showing the location of the external attic and Prussak's space.
3. Pathological sections showing the presence of the exudation in the external attic and the adhesions between Shrapnell's membrane and the neck of the malleus.

4. A section through the tympanum in a case of inflammation of the tympanic cavity.

5. Polypoid growths in the tympanum, due to chronic suppuration, in children, after scarlatina.

6. Preparations showing adhesions between the tympanic membrane and the internal wall of the cavity, after chronic suppurations of the middle ear.

7. A series of very interesting preparations representing the anatomical foundation of the disease known as *otosclerosis*, consisting of a proliferation of newly-formed bone in the labyrinthine capsule, which brings on ankylosis of the stapes.

8. Pathological changes in the labyrinth, e. g.: Proliferation of connective tissue as a result of internal otitis, ossification of the cochlea, exudation produced by the compression of the blood vessels of the external auditory meatus by a neoplasm of the cranial cavity.

Causes and Treatment of Ménière's Disease—URBAN PRITCHARD (London).

It is necessary before anything else to distinguish between the sign of Ménière and the disease properly called Ménière's.

The former may be produced either directly, or indirectly, or by reflex irritation of the posterior labyrinth, irrigation in the canal, pressure by a plug or foreign body, extension of the inflammation of the middle ear, change in pressure in chronic catarrh, or an intra-cranial lesion.

So far as Ménière's disease, to speak more properly, is concerned, we must first distinguish the apoplectic form, in which a severe attack immediately and completely destroys the functions of the ear affected by hemorrhages or an important congestion. The cause of this may be a traumatism, alteration of the blood (leucocythemia) or unknown.

On the other hand, the epileptic form is that which manifests itself by these periodic attacks. The causes of this are, for the most part, unknown; gout, a sunstroke and catarrh of the middle ear may be responsible for it.

Treatment—That of the sign of Ménière consists in treating the cause, which is often recognized; the plug or the foreign body is removed; the extension of the inflammation of the middle ear is treated with blisters, leeches, etc. In the case of intra-cranial

lesions, the sign is of secondary importance, the gravity of the causative lesion is of prime importance; nevertheless, bromides and hydrobromic acid may be used as palliatives.

Apoplectic Form.—Rest in bed, revulsion. bromides, pilocarpine. Really, very little to do.

Epileptic Form.—Therapeusis is more efficacious; bromides and salicylate of soda, small doses of quinine, of iron, and strychnine. Blisters used from time to time improve the hearing and lessen the tinnitus. Pilocarpine is rarely to be advised.

BALLANCE has, in a recent case, bared the vestibule and covered it with a skin graft; hearing returned and vertigo disappeared. We have in this, perhaps, a method of treatment to employ in the future.

MOLL, of Arnheim, co-reports on the same. Ménière's disease, or the complexus of signs called the symptoms of Ménière, consists, as is well known, in vertigos connected with tinnitus, and deafness and nausea or vomiting. Vertigo, which predominates in this triad, *vertigo ab aure læsa*, *vertigo auralis*, has for its origin a fleeting or permanent affection of the labyrinth either primary (hemorrhage, syphilis, etc.) or secondary (increase of intra-labyrinthine tension). But there are vertigos which may have created confusion; they have as points of origin organs more or less remote from the ear; *vertigo a stomacho læso*, those produced by a discharge in the nose or naso-pharynx, and those which give rise to cerebral or cerebellar affections, etc.

Now, it is not in conformity with observation to adopt the apoplectic form as typical, to identify apoplexy of the semicircular canals with Ménière's disease, for several reasons: In the first place, because anatomo-pathological observations are insufficient; in the second place, because the etiology is often different, and there is too great a difference in the appearance of the apoplectic and that of other forms. As a result, Moll, together with Brunner and Frankl-Hochwart, propose a change in the name Ménière's disease to that of Ménière's symptom, in all cases, with the restriction of making a classification and taking for the basis of division the seat of the disease.

The treatment of the symptoms of Ménière is that of the different aural affections in which the ampullar nerves excited either by a material lesion of the labyrinth, or by secondary compression, or by reflex action.

In cases of material lesion of the labyrinth during the crisis, rest and antiphlogistics are indicated, as well as suppression of the emotions and of all excitement; loud noises must be avoided, a strict, dry diet followed and total abstention from alcohol. Sulphate of quinine may be used with profit in small doses to quiet the labyrinthine hyperesthesia, and also injections of pilocarpine; ergot is unreliable. The iodides hasten absorption and act especially on syphilis, if that be the cause.

In other cases, local treatment is the better one to follow; free the labyrinth of all compression, either by removing a plug, or by an air douche, or by myringotomy, etc.

If it be reflex vertigo, the nose, the throat, or the naso-pharynx should be treated, and finally remove spurs and hypertrophied turbinates, if their presence, causing from time to time vertigo, give rise to a group of signs which simulate Ménière's disease. Electricity has never yielded any results to M. Moll. This author, following the example of Politzer, would feel inclined to galvanize the great sympathetic in cases of the angio-neurotic form of Brenner.

UNVEILING OF THE MONUMENT TO THE MEMORY OF PROF. CHAS. DELSTANCHE, OF BRUSSELS.

The installation and unveiling of the monument erected to the memory of Prof. Chas. Delstanche, of Brussels, took place January 20, 1901, in the Hospital of St. Jean, of Brussels. This is a well-deserved testimonial to one of the ablest champions in otology and the founder of the first otological clinic in the hospitals of Belgium.

At the Thirteenth International Otological Congress, in the fall of 1899, Dr. Delstanche was awarded the Lenval prize as a token of recognition for his faithful and original work in his chosen field.

It is but a just tribute to the memory of this distinguished otologist that this monument has been erected to serve as a landmark in the place where his many active efforts bore their richest fruit.

SELECTED ABSTRACTS.

Edited by

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with the collaboration of the

EDITORIAL STAFF.

I. NOSE AND NASO-PHARYNX.

The Importance of Preliminary Treatment for Intra-Nasal Operations—CARL SEILER—*Med. Record*, October 27, 1900.

As in general surgery it is always the rule to prepare the general condition of the patient before any surgical procedure is undertaken, so in nasal surgery it is very necessary to reduce the catarrhal state of the mucous membrane before any radical measures should be attempted.

Diet and hygienic measures should be prescribed; bathing of the neck and chest with cold spongings.

The nose and naso-pharynx should be cleansed with a mild alkaline spray of proper density and temperature. The author mentions his well-known tablet, and states that frequently it is not prepared in a proper manner.

Applications of an iodine glycerine solution are recommended to reduce the turgescency of the turbinals—operations following such preliminary medication afford better results.

(The abstractor called attention to the beneficial effects of such treatment a number of years ago, and still places considerable confidence in the method advocated.)

M. D. LEDERMAN.

Immediate and Remote Effects of Nasal Obstruction—F. R. REV-NOLDS—*The Med. Age*, January 25, 1900.

The author briefly refers to the physiologic functions of the nose.

The influence of a patent nostril upon good voice is mentioned, and the cause of many morbid conditions, like spasmodic asthma, cough, vertigo, neuralgia, gastric and cardiac symptoms is attributed in some cases to nasal irritation. Secondary effects as the result of nasal obstruction are often seen in the accompanying pharyngitis, bronchitis, emphysema, disease of the ears and eyes.

STEIN.

Nasal Obstruction and its Influence—J. LAWTON HIERS, Savannah, Ga.—*Ga. Journ. of Med. and Surg.*, February, 1900.

A clinical report of five cases. A case each of tinnitus, asthma, bronchitis and suppurative otitis media were relieved by reestablishing free nasal respiration.

W. SCHEPPEGRELL.

Removal of a Dislocated Columnar Cartilage—F. Y. CHAMBERLAIN—*Va. Med. Semi-Monthly*, March 9, 1900.

The protuberance was removed, and the parts kept in position by means of cardboard splints. W. SCHEPPGREGEL.

An Unusual Case of Nose-Bleed—C. W. SQUIRES—*Med. Record*, December 22, 1900.

This symptom was observed in a male, fifty years of age, and was quite alarming. For two months nose-bleeds occurred, which were only controlled by tampons and internal medication.

The patient felt something sharp in his right nostril, and his wife saw something sticking out of the skin on that side. On removing the foreign body, it proved to be a needle, broken off near the eye. No cause for its presence could be given.

M. D. LEDERMAN.

Intranasal Angioma; Bleeding Polypus of the Septum—W. E. CASSELBERRY—*Journ. Am. Med. Assn.*, February 3, 1900.

Casselberry believes that intranasal angioma are not as rare as has been represented. He reports a case in which he removed an angioma from the septum by means of the cautery snare. The base was cauterized with chromic acid. Two years have elapsed and there has been no recurrence. ANDREWS.

Nasal Reflex Neuroses in a Patient of Neurotic Type—H. N. HOOPLE—*Brooklyn Med. Journ.*, Oct. 1900.

The reflexes must in evidence exert:

1. The balance of the external ocular muscles with possible disturbance of the ciliary muscles in accommodation.
2. Nausea, mornings and after eating.
3. Quickened respiration and tachycardia.
4. Cough.
5. Throbbing pain at the right side of the nose; together with other naso-motor disturbance.

disease was found in the right side of the nose (pressure of inferior and middle turbinals). Also some error of refraction and some affection of the teeth and antrum. M. D. LEDERMAN.

The Removal of Thirty-Five Screw-Worms from the Nose—HAL. FOSTER—*N. Y. Med. Record*, December 22, 1900.

These foreign bodies were found in a male patient, seventy-two years of age, whose nose, eyes and face were badly swollen. He complained of excruciating frontal headache, and the discharge from the nose was bloody and very offensive.

On examining the nose the worms could be easily seen. They had made quite a large opening in the hard palate. Application of chloroform directly to the worms, on cotton, soon dislodged and brought them away. The sinuses were not involved. The patient made a rapid recovery. M. D. LEDERMAN.

II. MOUTH AND PHARYNX.

Mycosis of the Throat, with Report of a Case—F. E. WAXHAM— *Colorado Med. Journ.*, December, 1900.

The interest of this disease lies in its rarity, its resistance to all ordinary methods of treatment and the necessity for correct diagnosis. The disease is a parasitic one, due to the *leptothrix buccalis*, the spores of which are long and threadlike. It has been considered synonymous with thrush, but the two diseases are very different. The parasite gives rise to a fungus growth that appears in the form of small milk-white or yellowish-white tufts, soft and moist. These tufts are usually situated in the crypts, or in a wedge-shaped manner, in the mucous membrane just about the orifices of these crypts, and project about one-sixteenth to one-eighth of an inch above the surface of the mucous membrane. Occasionally they are hard and horn-like.

Mycosis may be found upon the posterior wall of the pharynx, the tonsils or upon the base of the tongue.

The disease is met with in the healthy quite as often as among the feeble and sickly, and quite as frequently among those whose teeth are well cared for as among those with carious teeth.

It is easily distinguished from tonsillitis, for in the latter disease the white spots of exudation are entirely confined to the tonsillar follicles, not appearing upon the mucous membrane elsewhere, and is smooth, not in tufts. In diphtheria we have the continuous patch of exudation, and not small, isolated white tufts. The microscope also differentiates. Probably the cheesy matter in the tonsil follicles most resembles the disease.

Once established there is no spontaneous cure, and the disease may last for years, or a lifetime, resisting all ordinary medication. The strongest antiseptics have little or no effect. This is because the roots of the fungus are deeply imbedded. It may be cured by the careful use of chromic or muriatic acid, but by far the best treatment is by the galvano-cautery, each mycotic tuft being deeply cauterized by the needle.

EATON.

Grant's Cheiloplastic Operation for Restoration of the Lip—

J. S. WOOTEN (Austin)—*Texas Med. News*, Mar. 1900.

The cheiloplastic operation for restoring the symmetry of the mouth, according to the method suggested by Grant, of Denver, Col., has proved successful in the case reported by the author.

The objections raised by Grant, and others, against the old-established, V-shaped operation, are as follows:

(1) Applicable only to small growths and large mouths; (2) needless sacrifice of tissue; (3) greatest tension is thrown at the vermilion border—the base of the wedge, and hence the puckering and deformity are greater; (4) the flaps are not taken from the mobile portions of the cheek at all; (5) extirpation of the sub-maxillary lymph glands are rendered difficult by necessitating additional separate incisions.

The advantages of Grant's operation are as follows:

(1) The incisions are confined to the mobile, elastic portions of the lip and cheek, allowing dissections where necessary from the alveoli; the large, well-nourished triangular flaps can be slid over the chin and make traction on the whole cheek and none on the chin; (2) there is less tension of the lip; it is more prominent and natural in consequence, therefore it is more flexible in use; (3) there is less necessity for resorting to accessory operations to restore size and shape of mouth, which is less apt to be disfigured by this operation than any other; (4) the removal of all submaxillary gland tissue can be easily accomplished by the continuation of the same oblique incisions over the rami of the jaw.

W. SCHEPPEGRELL.

Peritonsillar Abscess in Children, with Report of Case—L. T.

ROYSTER—*Pediatrics*, September, 1900.

The patient, twenty months old, developed a nasal diphtheria, from which it recovered, only to be followed by a peritonsillar abscess ten days later, which drained both externally at the angle of the jaw and in the mouth.

STEIN.

Aneurism of the Internal Carotid Consecutive to Abscess of the

Tonsil—WOLF—*Rev. Hebdomadaire de Laryngologie, etc. The Medical Bulletin*, September, 1900.

This peculiar sequela occurred in a female child, eight years of age. The attending physician while cleansing a swelling in the left tonsillar region, the size of a walnut, previous to making an incision into the supposed abscess, noticed as the child made a reflex movement of the throat, that a very large jet of blood was ejected from the mouth. Nearly a pint of blood was lost, but the bleeding stopped of its own accord, and the pharyngeal swelling disappeared though the patient was much debilitated. Two weeks later the tonsil again became enlarged, and an incision gave exit to pus. The patient seemed cured. A month later the physician noticed for the first time a tumor upon the posterior wall of the pharynx, progressively increasing in size. Repeated punctures always yielded pure blood of a clear, red color.

When the author saw the case, the patient was extremely anemic. The left tonsil, though not hypertrophied, projected very much, the posterior pillar was effaced and a spherical tumor almost touching the velum palati could be seen pulsating. When the carotid artery in the neck was compressed the pulsation in the tumor ceased. An exploratory puncture showed arterial blood.

Fearing a rupture of the aneurism on account of the thinness of the tumor covering ligation of the internal carotid was performed with good result. The author believes that at first there was an abscess of the tonsil, producing an erosion of a great vessel, followed by a rupture of the wall of the vessel; accompanied by the bleeding, and the development of the aneurism at that point.

M. D. LEDERMAN.

III. ACCESSORY SINUSES.

Acute Sphenoidal Sinusitis Terminating in Fatal Suppurative Meningitis and Diagnosed only at the Autopsy—J. Toubert—*Medical Bulletin*, October, 1900.

The author reports a rather unique case, with the following interesting features: Patient, male, twenty-two years old, soldier, was admitted to the hospital, with an attack of grippal bronchitis. The disease resolved into two distinct phases, a medical and surgical. The medical phase the bronchitis became complicated by an angina and finally both disappeared. Then the surgical phase appeared, showing itself in an attack of acute otitis. After a seemingly complete recovery, there was a relapse of the otitis. After the cessation of the second attack of otitis a new phase appeared, the predominate symptom being an intense, diffuse headache. Chills were also present and temperature reached 104.5°F. There was no reaction in the mastoid or carotido-jugular region; no disease of the thoracic or abdominal organs could be made out. The pupil and fundus of eye were normal. Some vomiting occurred. About two months after the initial attack of otitis patient died. The autopsy revealed the following salient points: 1. Diffuse meningitis at base of brain, limited to the soft membranes, lesions being particularly developed on the roof of the sphenoidal sinus; 2. a suppurative bilateral sphenoidal sinusitis with destruction of the intersinusal septum; 3. a unilateral suppurative otitis media without osteitis of the mastoid; 4. absence of lesions of phlebitis in sinuses.

Remarks—Case illustrates remote effects of grippal complications. Rhinoscopic examination, anterior and posterior, revealed no information. Osteitis of the sphenoid is almost the rule in sinusitis complicated by meningitis. The only three possible roads of transmission from the sinus to the subarachnoidal space, are osseous, venous and lymphatic. In this case the osteitis evidently existed. The salient feature brought out in this case is that sphenoidal sinusitis may not reveal itself by any characteristic sign. "Sphenoidal sinusitis" is not rare, only the diagnosis is rare." (Lermoyes.)

E. D. LEDERMAN.

Radiographical Researches on the Topographical Relations of the Brain, the Frontal and Maxillary Sinuses, and the Venous Sinuses of the Dura Mater to the Walls of the Skull—

PAUL REGNIER and JULES GLOVER—*Lancet*, February 24, 1900.

Reproductions of three of the radiographs will be found in the *Journal des Practiciens* of September 4, 1897, and also in *La Radiographie*. The investigations led to the following results:

1. Regarded in its surgical aspect the topography of the skull and brain may be studied by radiographic methods, allowance being made for the fact that the views obtained inevitably present some very slight distortions. By means of radiography it is possible to see the brain through the skull. More than that, an important guide-mark in the study of the topographical anatomy of the brain and skull is furnished by the circumstance that in the photographic plate it appears to be possible to superpose the outline of the cranial sutures on the outline of the fissures which separate the cerebral convolutions from one another. By these methods the relations between the cerebral convolutions and the walls of the skull, so interesting from the point of view of surgical intervention, can be studied with almost no preliminary preparation, which might have the effect of materially modifying the exact relations between the brain and the skull. Similarly on the radiograph of the cerebral convolutions, viewed through their bony covering, the outlines and the form of the lateral ventricle of the cerebral hemisphere are very exactly traced.

2. The immediate relations existing between the venous sinuses of the dura mater and the skull, and in particular those existing between the lateral sinus and the skull, may be defined both in the child and in the adult. Injections of the venous sinuses of the dura mater made with liquids which ultimately become solid, and which hold metallic substances in suspension, as well as some other devices to the same end, have enabled the authors to see these sinuses very clearly through the bony wall. The radiographs show the lateral sinus.

3. The authors have also been able to study, especially in dried preparations, the extremely variable extent and form of the cavities and bony cells of the mastoid process, as well as of the maxillary, frontal and sphenoidal sinuses, and of the ethmoidal cells.

4. It has been possible to recognize in the infant and in the adult the exact position with reference to the outside of the skull occupied by the petrous portion of the temporal bone and the three successive levels of the base of the skull. The authors have easily obtained, in specimens covered with their soft parts, the opaque triangular outline of the base of implantation of the petrous portion on the squamous portion of the temporal bone, as well as the outline of the three successive levels of the base in their exact relation to the external wall of the skull.

For details as to the methods of procedure the original paper must be consulted.

It is easy by mere examination with the fluorescent screen to verify the transparency and the condition as to emptiness of the frontal and maxillary sinuses, and perhaps even of the mastoid cells, with much more exactness than by making use of the ordinary electric light.

STCLAIR THOMSON.

IV. LARYNX AND TRACHEA.

Limitations of a Gargle—SAXTON T. POPE—*Occidental Med. Times*, March, 1900.

The author quotes Dunglison's old dictionary definition of a gargle: "A gargle is a liquid medicine, intended to be retained in the mouth for a certain time, and to be thrown in contact with the uvula, velum palati and tonsils," and holds that we have forgotten this definition, many persons being deceived. For if the act of gargling be gone through without a liquid, the posterior pillars are seen to be closely approximated, the soft palate is depressed, the uvula lies to one side, being displaced by the tongue, which, retracted and markedly convex, fills in the base of the angle made by the posterior pillars.

The author made experiments with patients from the throat clinic of the San Francisco City and County Hospital, who were made to gargle a mixture of methylene blue, mucilage and magnesia, which adheres to the mucous membrane and leaves evidence of its contact. In the majority of cases the buccal cavity was completely pigmented, as also the tongue, hard palate, anterior pillars and normal tonsils. The posterior wall of the pharynx was uncolored. Hence it was learned that the pharynx is untouched, that the gargle certainly does not go up into the vault of the pharynx nor down into the larynx. Therefore, when it is desirable to treat the buccal cavity and its contents, a gargle may be of use; when the pharynx or larynx are to be medicated, it is impracticable. EATON.

The Treatment of Laryngeal Tuberculosis—R. D. COHN (San Francisco)—*N. Y. Med. Record*, December 22, 1900.

The author divides the therapeutics of this disease into three stages. In the first stage, with exception for circumscribed infiltration or ulceration, the larynx is healthy. This is the only stage in which we can hope for a cure, and the treatment consists in curettage in case an infiltration is present, or cauterization with lactic acid if an ulcer exists. If the general condition, especially that of the lungs, be good, these procedures are imperative.

In the second stage, the larynx presents extensive infiltrations or ulcerations. Here the antiseptic treatment should be employed. The mildest method is by means of antiseptic inhalations. If the interior of the larynx can be readily seen, the application of a ten per cent solution of carbolic acid in glycerine is recommended. Also a ten to thirty per cent solution of menthol in olive oil is very beneficial.

The third stage admits only of symptomatic treatment. The relief of the distressing dysphagia by morphine internally, or local applications of cocaine solution. Impending suffocation demands tracheotomy. Internal medication must also be given.

M. D. LEDERMAN.

A Case of Paralysis of the Recurrent Laryngeal Nerve; Recovery—JOHN A. CULP—*N. Y. Med. Journ.*, Oct. 27, 1900.

This condition occurred suddenly in a male, thirty-six years of age, during the course of a conversation.

Laryngeal examination showed an acute laryngitis of moderate severity, with the left vocal cord in the cadaveric position. The right cord compensated for its lame fellow.

There was no anesthesia of the pharynx or larynx, but the patient's nervous system was much below par. He had suffered for fifteen years with diarrhea.

Rest, local application of a spray of menthol in benzoïnol, with tincture of nux vomica internally, gradually increased to 35 drops, three times daily, together with application of electricity, resulted in a cure in six months.

The diarrhea stopped after taking the nux vomica.

M. D. LEDERMAN.

Case of Flat Condylomata of the Vocal Cords—TANTURRI—*Giornale Internazionale Delle Scienze Mediche*, Anno XXII.

In 1875 Massei demonstrated the first case of flat condyloma of the vocal cords. Chiari and Worach later observed five cases of mucous plaques—three times on the vocal cords, once on the epiglottis and once on the mucosa. Bassols Prim, in addition to the lesions which are produced in the larynx during syphilis, admits the laryngitis with alterations in the color of the mucosa, either on the vocal cords or on the other parts without pain and without expectoration. Ficano reports a case of laryngitis with small ulcers, with similar ones on the borders of the tongue, the lips and the palate. Symonds refers to a patient affected with secondary syphilis, who suddenly lost his voice. There was congestion of the vocal cords and then fixation. Later on the right side of the larynx became infiltrated. In consideration of the rarity of this affection, the following clinical history is recorded: Female, aged twenty-four, contracted syphilis some months previously. After two and a half months from the initial lesion she attended Professor Massei's clinic. At the first visit there was noticed an infiltration of the vocal cords, but particularly of the left, with noticeable dysphonia. This infiltration suggested tuberculosis, but the examination for the tubercular bacilli was negative. A fortnight later, when the patient presented herself, condylomata were noticed on the lips, the tip of the tongue, near the frenum and on the palate. The larynx was markedly inflamed; infiltration of the vocal cords; the margin of the left was rough and irregular. On the upper surface of this a zone of marked infiltration, with epithelial destruction and opalescent exudation, irregular margins and complete dysphonia. Hypodermic injections and sprays of sublimate were ordered. In a fortnight the cure was almost complete.

FERRERI. (Translated by StClair Thomson.)

Foreign Bodies in the Air Passages—Radloscopy, Tracheotomy—

C. POLI—*Gazzetta degli Ospedali e delle Cliniche*, Anno xxi, No. 84, 15 Luglio, 1900.

Two cases of foreign bodies in the trachea, the position being settled by the Röntgen rays and the bodies being expelled by cough through a tracheal opening. The author remarks upon the great tolerance of the respiratory tract, since the first case was operated after ten days and the second after twenty-eight days, and he recalls the statistics of Bunch and Lake. The importance of the Röntgen rays is noteworthy in this case.

G. FERRERI. (Translated by StClair Thomson.)

A Case of Cyst of the Epiglottis—W. L. BALLARD (Columbus, Ga.)—*N. Y. Med. Journ.*, August 25, 1900.

This condition was observed in a male, fifty-two years of age. He complained of a sticking sensation in the throat, with a tendency to clear the throat, and a feeling of fatigue in attempting to use the voice for a prolonged period.

On examination a cystic growth, the size of a small filbert, with a broad base, was seen on the anterior surface of the epiglottis.

A gelatinous substance followed an incision into the growth. In two weeks the cyst refilled and was again incised, and a probe coated with chromic acid was employed as a curette.

Five months after this treatment there was no evidence of its return.

M. D. LEDERMAN.

Congenital Laryngeal Obstruction.—C. H. McILRAITH—*Lancet*, April 28, 1900. Harveian Society.

The author read notes of a case of congenital laryngeal obstruction in which sudden death took place from laryngeal spasm (a specimen of the larynx was shown). The case was that of a female child, aged six months, who had been seen to be suffering from persistent respiratory stridor from the age of six weeks. There were no other cases in the family, and no history of injury at birth or convulsions after. The child had, however, congenital syphilis. The stridor was entirely inspiratory, expiration being noiseless. It varied at different times both in character and in intensity. When the breathing was regular or superficial the stridor was diminished or absent. It was absent during sleep. It was increased when the child's breathing was irregular or deepened, as after crying, and also by changes of temperature, as on taking the child from a warm to a cold room, and to a lesser degree from a cold to a warm room. There were no signs of obstruction. The mucous membrane of the nose and naso-pharynx was generally relaxed, and there was some small amount of post-nasal adenoids present. On examination of the larynx the epiglottis was seen to be sharply folded and incurved on itself. The aryteno-epiglottic folds seemed to extend from the tip of the epiglottis to the tips of the arytenoids as thinned bands, which were closely approximated to one another. Thus the upper aperture of the larynx was reduced

to a narrow slit with two small openings, the one at the tip of the epiglottis and the other between the arytenoids. The thin folds seemed quite flaccid, and flapped to and fro on respiration. There was some slight edematous swelling over the arytenoids. The child died suddenly two months later, apparently from laryngeal spasm. A post-mortem examination had been obtained. The larynx gave appearances much the same as seen during life, except that there were evidences of considerable relaxation of the mucous membrane over the arytenoids. The case was brought forward as one of interest on account of the comparative rarity of the disease, the possibly fatal issue, and as confirmatory by means of post-mortem evidence of the views put forward by Dr. G. A. Sutherland and Dr. Lack.* From the post-mortem appearances it was impossible to consider otherwise than that the stridor was purely mechanical, produced by the valvular action of the upper aperture of the larynx, depending partly on the peculiar malformation and partly on the flaccidity of these parts in infants. If post-nasal adenoids affected it at all it would only be by rendering the tissues more liable to relaxation, and thus producing still more narrowing of the upper lumen of the glottis.

Dr. Herbert Tilley pointed out that Avellis (Frankfort) had stated that in some cases congenital laryngeal stridor was due to pressure on the trachea by an enlarged thymus gland. The condition was (in such cases) at once relieved by removing portions of the gland or stitching it forward on the sternum, or by performing tracheotomy and inserting a long tube which passed beyond the obstruction.

Dr. Lack said that the specimen was an extremely interesting one to him, as it was a further proof of the correctness of the views which Dr. Sutherland and he had expressed as to the pathology of this disease, and quite fatal to the hypothesis of those who had ascribed the disease to adenoids.

Replying to Dr. Tilley, the author stated that the thymus gland was of the usual size, and that in a case of pressure on the trachea by an enlarged thymus which he had seen the character of the stridor was quite different, and was both inspiratory and expiratory, chiefly expiratory.

STCLAIR THOMSON.

* *The Lancet*, p. 653, September 11, 1897.

V. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

Endoscopy of the Esophagus and Stomach—GEORGE KELLING—*Lancet*, April 28, 1900.

After an historical review of the efforts made during the last thirty years to obtain a view of the interior of the esophagus in a living subject, the writer describes his own instrument based on the principle of a curved hollow tube, which after introduction can be straightened. The paper, while interesting, is too long to abstract, but it is worth studying, as the writer feels sure that excellent results will be obtained by well-trained specialists with esophagoscopy and gastroscopy.

STCLAIR THOMSON.

The Treatment of Severe Cases of Diphtheria with Saline Infusions—E. E. LASLETT—*Lancet*, October 20, 1900.

Saline infusion has now become a well-recognized therapeutic measure in many forms of acute septic disease. This paper is a preliminary account of the results of its use in cases of severe diphtheria. It is generally considered now that under the influence of antitoxin treatment numerous cases of diphtheria recover from the acute stage that would have been fatal, in all probability, in the first few days of illness in the period before the introduction of antitoxin. Unfortunately, however, these cases are frequently disappointing in later stages. At a variable time, after all membrane has disappeared, sometimes as early as the seventh day of illness, signs of serious heart failure appear, accompanied, as a rule, by persistent vomiting. So frequently does this happen, that after some experience of diphtheria work, one can foretell with considerable accuracy which cases will develop this heart failure, a most serious sequela, which in the majority of instances proves fatal.

The pathology of this condition has been well studied, and extensive fatty degeneration of the heart muscle has been found in nearly all cases. Villy* found it markedly present in fourteen out of fifteen cases in which death resulted from cardiac failure, and an important feature is the early period of the disease at which the fatty change develops. In one case Villy found it as early as the fourth day of illness. The fatty degeneration of the heart muscle is probably independent of nerve injury, but whether this is so or not, it is certainly ultimately the result of the action of diphtheria toxin.

1. *In the Late Stage.*—Its use is particularly indicated when, during the persistent vomiting, nutrient enemata are also rejected. Inasmuch as the fluids of the body are thus constantly diminished, the blood must become more viscid, and the work of the heart thereby much impeded. The absorption of a considerable quantity of saline fluid will therefore tend to diminish this viscosity, and will consequently relieve the heart. Some six cases were treated in this way, but they were all ultimately fatal, probably because the damage already done to the heart was too severe to be recovered from. However, the treatment seemed to prolong life, and certainly made it more tolerable by the relief of the thirst and restlessness which are essential accompaniments of this condition.

2. *In the Acute Stage.*—At an early stage of the disease, the introduction of additional fluid into the blood system will, it may be supposed, dilute the toxin, or help its excretion by producing diuresis. We are not aware of any experiments to prove the excretion of diphtheria-toxin by the kidneys in man; but in the case of the lower animals its excretion in the urine has recently been demonstrated by Cobbett†.

* *Medical Chronicle*, September, 1899.

† *Lancet*, July 7, 1900, p. 22.

Fifteen cases in all were treated in this way. They were chosen on account of their severity, the main indications being the presence of much spreading membrane, nasal discharge, and great fætor of the breath. The infusion was carried out in the first instance as soon as possible after the admission of the patient, and was continued during the first, second, and occasionally the third day. A solution of common salt of the strength of two teaspoonfuls to the pint was always used. The injections were made under the loose skin below and outside the right breast. The pressure used was that of about from $1\frac{1}{2}$ to 3 feet of water, which is quite sufficient and insures the gentle and uniform distension of the subcutaneous tissue, and thus produces very little pain. The salt solution was boiled, then covered over in a pint measure, and allowed to cool till it was just as hot as the hand could bear. It is impossible, however, to judge of the temperature of the saline solution as it passes into the skin, on account of the rapid cooling that takes place in the india rubber syphon tube. By this means from 10 to 15 ounces may easily be injected in half an hour, and it is surprising how little discomfort it produces. During the process the children are readily soothed, and quite commonly fall asleep towards the end of the injection.

The condition of repose brought about by the infusion is an undoubted fact, and is probably due partly to the sense of warmth produced, and partly to the filling of the blood-vessels as absorption of the solution occurs. Certainly the pulse tension as determined by the finger rises rapidly. Craig[†] in a large number of observations on insane patients found that in melancholia the pulse tension is raised, while in mania it is below normal. In a subsequent paper[‡] he refers to the beneficial effect of rectal injections of salt solution in conditions of maniacal excitement. One of the worst features in a severe case of diphtheria is the condition of extreme restlessness during the first few days of illness, which prevents anything but mere snatches of sleep being obtained. The relief of this condition by the infusion is very real, and contributes considerably to the beneficial effect of the treatment. Owing to the youth of the patients and the severity of the illness, the urine is commonly passed in the bed, and consequently it has only rarely been possible to determine the influence of the treatment in the direction of diuresis. In one or two cases diuresis was certainly well marked, and it continued for a day or two after the treatment had ceased.

STCLAIR THOMSON.

[†] *Lancet*, June 25, 1898, p. 1742.

[‡] British Medical Association, 1900.

VI. EAR.

Removal of a Foreign Body from the Ear—JAMES G. MACASKIE—*Lancet*, June 2, 1900.

The author was called in to see a schoolboy who had pushed into the right meatus a piece of india rubber which had previously been attached to a lead pencil. It was found that he had driven the rubber well in, and as it was almost an exact mould and presented to view an entirely flat surface, it was impossible to catch it with forceps, and syringing did not seem likely to improve matters. The author, therefore, on the following day, teased out the end of a small piece of twine, and giving this a good coating of seccotine*, pushed it tightly against the india rubber, packing it closely all round with cotton wool. This was allowed to remain in position for twenty-four hours when there was firm cohesion, and not the slightest difficulty was found in withdrawing everything *en masse*.

STCLAIR THOMSON.

On Alterations in the Organ of Hearing Produced by the Explosion of Firearms—A. LUZZATI—*Annali di Medicina Navale*, Anno vi, Fasc. 5, 1900.

The causes of change are essentially reduced to a sudden variation of pressure in the middle ear, or to a violent shock, which is the equivalent, and the following three questions are suggested:

1. Can a loud noise, like a cannon-shot, produce rupture or other lesion of the tympanic membrane?
2. Can the same cause without tympanic lesions produce alterations in the internal ear sufficient to induce any notable deafness?
3. Admitting the possibility of these facts, what are the points for distinguishing these lesions from similar ones depending on other causes?

After abstracting statistics and practical observations from well-known otologists and comparing them with his personal experience, the author concludes with regard to 1 that "if a rupture of the drum is possible by loud noises or violent explosions, this is certainly an exceptional occurrence and nearly always favored by progressive changes in the tympanic membrane, which render it less elastic and resistant." With regard to 2 he establishes that "in general terms and in the greater number of individuals the action of loud noises is explained by the symptoms of labyrinthine commotion, more or less serious, but nearly always transitory. More marked and persistent changes (hemorrhages, labyrinthitis) are certainly exceptional and should be received *cum grano salis*." "In addition to the statistics of otologists, he says that they have nearly always as a substratum and as a predisposing cause a progressive affection of the middle ear, such, for example, as ankylosis of the ossicular chain, which, owing to its rigidity, transmits without breaking up the violent vibration to the labyrinth." "The con-

* Seccotine—A sort of patent glue or stickfast.

tinuation of such action for years and years provokes a cell inflammation of the labyrinth, with deafness and subjective tumors, which we may find in smiths and boilermakers.

The common opinion is negated that by a loud noise it is easy to rupture the membrane."

With regard to treatment the author recommends the abstention from lotions more or less antiseptic, which often develop a purulent otitis, while for the trauma of the drum a small plug of antiseptic gauze gives the best result. For otitis iodide of potassium, injections of pilo and other treatment that produces perspiration, favors the natural regression of the lesion.

G. FERRERI. (Translated by StClair Thomson.)

Fungus Disease of the Ear—W. K. HATCH AND R. ROW—*Lancet*, December 1, 1900.

In order to show the frequency with which fungus disease of the ear is met with in Bombay during the rainy season, one author (W. K. H.) collected all the cases treated at the Jamsetjee Jeejeebhoy Hospital during the month of October, 1899. He verified diagnosis by microscopical examination, and in several instances Dr. Row made a culture on agar agar. Medical practitioners in Bombay often speak of the liability to disease of the external ear in this climate, and they generally diagnose the conditions as furunculosis. In most cases the disease is really aspergillosis, and the small pustules seen in the canal are merely the result of a growth of a fungus. Von Roosa in his able work has tabulated several varieties, and he states that, in his opinion, the fungus is the cause of the eczematous condition of the canal and not secondary to it. It will be seen from the tabulated cases that in only one was there any pre-existing disease of the ear; this patient had a perforation and discharge some months before, which had been treated and stopped by means of nitrate of silver. The ear remained well until the appearance of a fungus; there was therefore no discharge seen before the symptoms were experienced. Formerly there had been several recurrences of discharge with inflammatory symptoms from the affected ear, and on none of these occasions was any fungus found, so that probably the fungus in all the cases was really primary. There appears to be a considerable difference in the symptoms due to fungus, varying from slight to considerable deafness, and attended by pain, which is occasionally severe. There is also a good deal of discomfort; generally described by native patients as "heaviness" and sometimes also "stiffness," but this symptom varies according as to whether the canal is blocked up by epithelium and fungus, or whether the growth is merely a coating to the canal of slight thickness. In most cases the membrana tympani is obscured from view by the growth, or red patches may be seen on it here and there. Roughly speaking, cases may be divided clinically into dry and moist; in the latter class, the symptoms of eczema are present to a greater or less extent, and there is therefore a watery or slightly purulent discharge from the ear, and

slight pain and deafness with a feeling of heaviness are usually complained of. In the majority of cases the *aspergillus niger* is found. There is a quantity of moist-looking epithelium on which black particles are plainly visible, having an appearance of grains of gunpowder. If the particles are plentiful, there is more black than white visible; but if there are only a few, it may not be easy to distinguish them readily. After syringing and the removal of the mass, the walls of the canal are seen to be red, and denuded of epithelium and often irregular, with small furuncles and swellings, and the membrana tympani may be bright red in color or dull and sodden in appearance. Often the *aspergillus flavus* can be seen growing on the surface of small superficial pustules, and if in any quantity the small balls of sporangia are plainly visible. The growth of *penicillium glaucum* gives a fluffy appearance to the surface.

In the "dry" variety the symptoms of pain, uneasiness, and deafness are also complained of, but there is no discharge, and the canal on examination may be found either to be stuffed full of epithelial debris with yellow, black or brownish-looking particles sprinkled on the surface, or the walls of the canal are coated with a crust, usually of a darkish color, on which the fungus is seen growing. The appearance is not unlike that of rhinitis when dry crusts coat the surface of the mucous membrane; the tympanum is therefore visible, but the surface is generally partially coated with a similar fungus to that on the canal. Sometimes white patches on the tympanum also are met with, and they are difficult to remove. After syringing, the walls of the canal appear red but dry, and the membrana tympani is not so often inflamed as in the moist variety. Diagnosis is readily made after a few observations, and confirmed by microscopical examination; sometimes the amount of spores is largely in excess of the mycelium.

The treatment adopted in both varieties is the same, and it consists in syringing very thoroughly and using iodoform and boric acid in equal parts. The canal may be swabbed out with camphorated salol, but the drugs used are not of themselves so important as frequent cleansing. It is not necessary to say more than this, that cleanliness and dryness are most efficacious.

STCLAIR THOMSON.

VII. MASTOID AND CEREBRAL COMPLICATIONS.

Cases of Mastoid Inflammation—CHARLES W. KOLLOCK—*Carolina Med. Journ.*, March, 1900.

In the first case, after infection of the mastoid cells had occurred, the middle ear improved, and the mastoid involvement was only suspected from the external symptoms.

In the second case, immediate operation appeared to be indicating but it recovered under aseptic treatment.

The last case had positive mastoid involvement without pain or increase of temperature.

W. SCHEPPEGRELL.

Mastoid Disease, Acute Otitis Media and Pyemia Occurring in an Epileptic as a Result of Injury—R. A. WILSON—*Lancet*, May 12, 1900.

A married man, aged thirty-seven years, who was epileptic, was admitted to the Rubery Hill Asylum on April 27, 1892. He enjoyed a tranquil existence until January 26, 1893, when at 3 a. m. another epileptic, in a frenzy of acute maniacal delirium, darted out of an adjacent bed and severely belabored him about the head with an earthenware chamber utensil. For several years after this from time to time the patient complained of a deep-seated pain over the right mastoid process, together with slight deafness, but no objective symptoms could be made out, nor was there any bulging of the postero-superior wall of the meatus. On November 16, 1899, he fell in an epileptic seizure, sustaining an incised wound of the right eyebrow and also a contusion of the right ear. On the 24th of that month a purulent discharge made its appearance from the affected ear, and on the 27th the tympanic membrane was found to be perforated. On December 4th the discharge was much more profuse, the temperature being 100° F. On the 5th the discharge was still greater, and the ear required syringing six times a day. The temperature was 100° . On the 11th there was a slight diminution of the discharge, the temperature rising at night to 100° . On the 12th the temperature rose from 98.8° in the morning to 102.2° in the evening, on the 13th it rose from 99.6° to 103.4° , while on the 14th it dropped from 104.4° to 103.4° . On the 15th there was still much discharge, the morning temperature being 104.2° and the evening 106.4° . The typhoid character of the temperature continued for the next two days, rising from 104.6° to 106.4° on the 16th, and from 101° to 104.8° on the 17th. On the 18th the morning temperature was 101.4° and the evening temperature was 101.6° . The discharge had diminished. He was dull, stupid and irritable, and appeared to have difficulty in collecting his thoughts when trying to answer questions. On the 19th the temperature, which was 99.2° in the morning, rose to 104.8° in the evening. On the 20th the morning temperature was 99.6° and the evening temperature was 103.2° . An accumulation of pus was incised and evacuated over the left elbow-joint. On the 21st an abscess over the left metacarpus was opened. The discharge from the ear, which had diminished somewhat, became more copious. Perspiration was very profuse, alternating with rigors. When addressed he "rambled" in an incoherent manner. The morning temperature was 102° and the evening temperature was 101° . On the 22d the temperature in the morning was 100° . A collection of pus over the right ankle-joint was opened. The condition of the patient was very grave. There was marked pallor of the countenance, and he was unable to speak, though able to take fluid nourishment. He died at 12.30 p. m.

Extract from Post-mortem Book.—The dura mater over both petrous and mastoid portions was unaffected, as were also both anterior and posterior surfaces of the petrous and external surface of

the mastoid. There was no change in the lateral sinus. The bone forming the roof of the tympanum was removed and disclosed pus in that cavity. The mastoid antrum was full of thick, cheesy pus; its walls were thin, but hard and dense. Free communication existed between this cavity and the tympanum.

Remarks.—It seems reasonable to suppose that the injury inflicted in January, 1893, interfered with the nutrition of the mastoid cells and was the starting point of the whole train of ill-effects, while the fall on November 16, 1899, hurried on the process to a fatal termination. Several circumstances in the case strike one as being peculiar: (1) The fact that the disease commenced in the mastoid portion and spread to the middle ear instead of *vice versa*; (2) the long period of latency during which the only symptoms were deep-seated pain and slight deafness; (3) the rapid progress to a fatal termination when once the process had spread to the tympanum; and (4) the limitation of the disease to the mastoid and tympanic cavity, and the non-implication of the membranes and lateral sinus, although the ultimate cause of death was pyæmia.

STCLAIR THOMSON.

Two Cases Illustrative of Cases of Sinus Pyæmia with Unusual Results—JAMES KERR—*Lancet*, October 13, 1900.

Increased attention is now being paid to aural diseases. The recorded mortality from otitis has increased from five to twenty-five per 1,000,000 in twenty years, between seventy and seventy-five per cent of these deaths occurring in persons under fifteen years of age, so that the suppurative ear disease so frequently neglected after the exanthemata, is of serious import to life within a few years. Its import arises from extensions beyond the middle ear leading to abscess or pyæmia. Ten years ago these suppurative complications were looked upon as almost fatal; they are of the gravest import still, and one of the most formidable is sinus pyæmia. Two cases recently seen are worth recording; they are typical in clinical features, but unusual in the result. The treatment followed in both cases was by operative measures, and the use of anti-streptococcic serum.

One case proved fatal, although the sigmoid sinus was opened, the jugular tied, and anti-streptococcic serum used.

Post-mortem examination showed extension of the thrombus, back from the obliterated part of the sinus and up the petrosal sinuses, general discoloration of bone, erosion and purulent lymph about the jugular foramen, several perforations punched out of the vein wall, and communication from the floor of the tympanum through the jugular dome, by which route infection seemed to have spread.

The second was treated in the same way, and recovered.

The mechanism of these cases is usually a chronic suppurative otitis with extension to the mastoid antrum and cells, which discharge freely until suddenly, either from increased thickening of the mucous membrane or from slow thickening of the bone, the antral passage becomes blocked and discharge ceases. The first signal of danger—pain—follows, with violent inflammation from the retained pus, which

often in children breaks its way through the ununited squamoso-mastoid fissure, but in others more often finds its way into-cerebral, sigmoid, or cerebellar fossæ. The usual route leading to sigmoid sinus pyæmia is perforation from the antrum into the knee of the fossa, but in Case 1 the perforation appears to have followed a very unusual route in perforating the jugular dome. When the local focus becomes diffused and the chest becomes affected, recovery can scarcely be expected, yet this took place in Case 2, and probably was greatly aided by the use of the anti-streptococcic serum. With a rapid pulse and pyæmic temperature early exploration of the sinus should be made, and if it be found to be affected, operative measures for the thorough removal of all septic material should be resorted to.

STCLAIR THOMSON.

VIII. THERAPY.

The Advantages of the Spray in Pseudo-Membranes of the Pharynx—D. C. BROWN—*New Eng. Med. Journ.*, Jan. 1900.

An interesting introduction of the pathology of pseudo-membranous formations upon the tonsils and pharynx is given. In true diphtheria the author believes that the toxin can be neutralized by antitoxin, though this remedy does not stop the production of the toxin. The antitoxin does hasten the separation of the pseudo-membrane. He believes that the spray is better than any other means, to attack the membrane. For its effective application the tongue must be depressed and the spray directed diagonally across the throat. Avoid any healthy tissue with the direct force of the spray.

He recommends first the use of hydrozone, which breaks up the pseudo-membrane and makes way for other antiseptics. The second spray is a solution of formaldehyde, one-fourth per cent, or the following combination:

| | |
|---|---------------|
| ℞ Sol. formaldehyde, $\frac{1}{4}$ per cent | ℥i to ℥ii |
| Kali chlor | ℥ii |
| Acid borac | ℥i |
| Glycerinæ | ℥ss |
| Aquæ | q. s. ad. ℥iv |

M. D. LEDERMAN.

Lupus Vulgaris Treated by Freezing by Means of Chlor-ethyl—

C. A. DETHESSEN—*Hospitalstidende*, No. 1, 1900.

Patient, female, æt. forty-six years, with lupus faciei, involving the whole nose and adjacent parts of the cheeks; the skin greatly infiltrated, swollen, bluish-red, covered with ten distinct ulcerations. The case was of twenty years duration, beginning at tip of nose. The author excised the ulcerated area and then began a series of freezing applications.

Chlor-ethyl was sprayed over the affected area every second day for one-half minutes. Following each treatment there was reaction, swelling and redness, which was temporary in character. After six

applications all evidence of ulceration had disappeared and the skin presented a normal appearance. The application of chlor-ethyl is painless. To avoid inhalation of the spray, the patient's nostrils were plugged, and respiration was accomplished through a glass tube.

GOTTIEB KIAER.

Electric Light; Its Physiological Action and Therapeutic Value in Tuberculosis of the Throat and Lungs—W. FREUDENTHAL

—*Med. Record*, October 27, 1900.

The author quotes the investigations of Dr. S. Bergel, of Inowrazlaw, who experimented with the effect of light and darkness on the ciliated corpuscles. The method of procedure is detailed. This investigator found that if a ciliated corpuscle in motion was placed under the microscope, and the latter was darkened, the motion of the corpuscle became slower and slower, and finally ceased. When this same corpuscle was again exposed to light the oscillation recommenced after a latent period, depending upon the duration of the exposure to darkness.

The actual labor by the ciliated cell in the body is enormous, as shown by the experiment of Justus Gaule, upon the frog.

The author states that some of his cases of laryngeal tuberculosis have been relieved of their painful symptoms by the application of the electric lamp to the outside of their larynx. Dysphagia was also improved with this method.

Care must be taken in applying the lamp, as severe burns may result. The author suggests that the electric light be tried in pulmonary disease.

M. D. LEDERMAN.

IX. NEW INSTRUMENTS.

The Eustachian Bougie—L. B. LOCKARD, Pasadena, Cal.—N. Y.

Med. Journ., December 29, 1900.

In an interesting paper upon this instrument, the author offers the following résumé:

Except when used as an electrode, it is applicable in two conditions only: stenosis and tinnitus.

The therapeutic effects are uncertain; sometimes harmful, frequently beneficial.

It effects its purpose in two ways: by pressure upon contracted tissue and by reflex influences upon the auditory center.

It should be given a trial in all cases that have resisted other procedures.

Its use must be stopped upon the first sign of increase in the local trouble.

If care is taken, the dangers said to attend its application will be accidents of the greatest rarity. It has a definite field in aural surgery.

M. D. LEDERMAN.

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BOOK REVIEWS.

The Year Book of the Nose, Throat and Ear. G. P. HEAD, M.D., and ALBERT H. ANDREWS, M.D., Professors in the Chicago Post-Graduate Medical School, Etc. The Year Book Publishers, 100 State street, Chicago, Ill., 1901.

"The Year Book for 1901," just fresh from the publishers, merits the approval which was bestowed in our columns on the initial volume. It consists of 416 pages altogether, and is of the same general character as the book for last year. The nose and throat department occupies 222 pages, the ear section 153, and the abstracts in the latter division are especially full.

References are made to articles in 301 American and foreign journals, and to the transactions of three societies. The subjects are conveniently classified, as a rule, but occasionally are a little confused; however, this is a matter to be easily corrected in subsequent volumes. It is no trifling task to collate and publish promptly an epitome of the work of many hundred writers in all parts of the medical world for a twelvemonth, notwithstanding that all of the papers are not abstracted. In numerous instances each writer is merely referred to, with only words enough to indicate his opinion.

A fair idea may be gained of the scope of the work when we consider that two and one-half pages are devoted to the subject of the suprarenal gland; there are twelve abstracts of the subject of hay fever, twenty-eight on atrophic rhinitis, thirty-six abstracts and references on tuberculosis of the larynx, forty-seven on the pharyngeal tonsil, seventy-seven on diseases of the cavities accessory to the nose, twenty-three on sinus thrombosis and forty-five on mastoid diseases.

No one is so accomplished in this specialty that he cannot derive much profit from this rich storehouse of information.

S. S. BISHOP.

Tuberculosis: Its Nature, Prevention, and Treatment with Special Reference to the Open-Air Treatment of Phthisis. By ALFRED HILLIER, B. A., M.D., C. M., Fellow of the Royal Medico-Chirurgical Society, London; Member of the Council of the Medical Graduates' College; Member of the Council of the National Association for the Presentation of Consumption and other forms of Tuberculosis; Honorable Secretary to the London Open-Air Sanatorium. With thirty-one illustrations and three colored plates. Pages, 243. Price, \$1.25 net. Cassel & Co., publishers, London, Paris, New York and Marlborough.

This volume, as its title indicates, considers the nature, prevention and treatment of tuberculosis in its numerous aspects. As the author indicated in his preface there is no one book in England devoted to this subject as a whole. We have numerous treatises on public health, etiology, pathology and bacteriology, and considerations from the standpoint of clinical medicine and special practice.

The intention of this work is to set forth in concise form in one volume points of interest, reference and value on this many-sided question. Separate chapters are devoted respectively to the nature of tuberculosis, the clinical forms, transmission, preventive measures, therapy and finally the consideration of national movements against the spread of tuberculosis. The concluding chapter contains numerous brief, succinct axioms and remarks constituting a résumé of the volume.

Special reference to the open-air treatment of phthisis, the bacteriological examination of sputum, the technique of the application of tubercule and other valuable data.

Guida Alla Diagnosi Medico-Legale Della Sordita. (Guide to the Medico-Legal Detection of Deafness.) By G. OSTINO, Florence, *Scuola Tipografica*, 1900.

Italian otological literature has recently been enriched by this new work, which further demonstrates the progress of the study of ear diseases in the peninsula and the activity of our university clinics.

The author, a surgeon-captain in the army and at present teacher of otology in the military medical school of Florence, was formerly honorary assistant to Professor Gradenigo, and from the teaching of the distinguished specialist of Turin, as well as from his own experience, he has gathered considerable knowledge. This is revealed in the important and useful book just published. Even more than a guide to the medico-legal diagnosis of deafness, it might be entitled a manual of semiology of the ear, being indeed a collection of the various methods of examining the ear and of testing their value. From this point of view the treatise could not be better compiled, and it would have certainly been complete if the author, instead of being too much taken up with the medico-legal aspect, had given more space to recording the valuable progress that otology owes to various Italian researches.

We do not share altogether the views of the school to which he belongs in giving the greatest importance to the functional examination in preference to the objective; and the reason is due to the absence of certain knowledge about some fundamental questions in respect to acoustic function. But notwithstanding we commend the gallant author for the general design and the scientific exactitude with which he has compiled his treatise.

Indeed, we trust that in a new edition, which ought soon to be required, certain defects will be made good, the more so as the author has supplied the want by offering to practical surgeons and those occupied with deaf-mutes an interesting and useful book.

G. FERRERI. (Translated by StClair Thomson.)

